



# **John Reich Journal**

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# JRCS

JOHN REICH COLLECTORS SOCIETY  
P.O. Box 135 Harrison, OH 45030

The purpose of the John Reich Collectors Society (JRCS) is to encourage the study of numismatics, particularly United States gold and silver coins minted before the introduction of the Seated Liberty design, and to provide technical and educational information concerning such coins.

Annual dues .....\$20.00  
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The John Reich Journal is the official publication of the Society and is distributed to all members in good standing. Members are encouraged to submit any articles encouraging the study of numismatics and / or relating to early United States gold and silver coins to the editors. Especially needed are articles containing new information about die marriages, die states of published die marriages, attribution methods, collections, collectors, etc.

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Cover Photos: Newly Discovered 1806 0130 Draped Bust Half Dollar  
and 1835 LM 12 Capped Bust Half Dime

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# John Reich Journal

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## Editor's Comments

An exciting year for the collectors of Bust coinage by die marriage continues! We have had two new die marriages discovered and reported to the collecting community in the first issue of our journal mailed to the membership in the spring. We continue with more newly discovered information concerning our early coinages with the revelation that much more of the designs on some half dollars and eagles were actually hubbed and not added individually by hand. AND that these designs were actually used on BOTH half dollar and eagle dies! You can learn the whole story from Bill Nyberg later in this issue.

The recently concluded convention of the Early American Coppers in St. Louis was an exciting and educational event. As you already know, the members of the JRCS were invited to join our copper brethren for their annual convention. The thought process was that if all went well we could integrate the two collecting disciplines for the annual convention. We were invited to their party to learn more about what went on during the convention and how we could participate. The experiment was a complete success! Many of the collectors from each club had a "secondary" collection of the companion metal. After all, the copper, silver and gold coins we love to collect were all made at the same time, by the same people, in the same place. It only goes to reason that we can learn things from each other concerning the events at the early Mint.

Next year's EAC convention is scheduled for Dallas, Texas next April. More specific information on the convention dates, educational programs, "happenings" selections, bourse availability and our participation will be included in the next issue of the JRJ. There will be a "happening" room for the silver issues and bourse tables will be available to our members. Insurance regulations require that table holders be a member of EAC, so if any JRCS members wish to have a table they must also be a member of EAC. Should anyone have any specific questions please do not hesitate to contact me at [jrcs19@roadrunner.com](mailto:jrcs19@roadrunner.com).

The officers of JRCS will conduct their annual meeting at the upcoming ANA convention in Milwaukee. The details of our participation will be discussed including which coins to include in our happenings. We will need some volunteers to help run our happening room at the Dallas convention. If you have plans to attend the convention and would like to assist in making it a memorable event, please contact me to volunteer some of your time and expertise. We will be announcing the die marriages selected for each series for review in a future issue.

The annual meeting of the John Reich Collectors Society is scheduled for Wednesday August, 8 at 8AM in room 101C of the Midwest Airlines Convention Center, 400 West Wisconsin Avenue, in Milwaukee, Wisconsin in conjunction with the annual American Numismatic Association's convention. All members are encouraged to join us for our meeting which will conclude in time for the opening of the bourse. We are all looking forward to seeing you there. Other meetings that may be of interest to our members include the Bust Quarter Collector Society at 11AM, Friday August 10 in room 101B and the Early American Coppers meeting at 9AM in room 102C, also on the 10<sup>th</sup>. On Wednesday evening the 8<sup>th</sup> there will be an open

house for members of JRCS and their guests at the Hyatt Regency in my hotel room. This is an informal meeting where members can get together to discuss coins or any other topic that may come up. If you have a friend that may be interested in joining the society, bring them up to meet some of the members. The room number will be announced at the Wednesday morning meeting.

We have a good start on articles for the next issue of the journal but we still need more information to print. Please consider writing something for the journal that will make you eligible for next year's voting for the Jules Reiver Literary Award.

Half dollar collectors will enjoy the census of R4 and better Capped Bust Half Dollars found in this issue. I would like to thank Steve Herman for taking the time to compile the information for our enjoyment. I would also like to express my thanks to all the collectors who took the time to participate. The census information contained in the pages of the JR Journal, in my opinion, is some of the most important we publish. On that note, just a reminder, the Bust Dollar census is next. Collectors interested in participating should send their census information to; JRCS Dollar Census PO Box 135, Harrison, OH 45030, or electronically to [wdperki@attglobal.net](mailto:wdperki@attglobal.net).

We also welcome letters to the society from the membership. Do you have a question or comment about the journal or the coins you collect? You can send anything to the editor for possible inclusion in a future issue of our journal. Sometimes a simple question can spark the idea for a full length article for publication. You do not need to be an advanced numismatic researcher to contribute to the journal.

We hope to see you at the ANA show in Milwaukee in a few weeks. There will be lots of interesting things to do and see at the convention. There will be many educational opportunities at the Numismatic Theater presentations sponsored by the ANA. You can also attend the annual club meetings of many different societies and hear their educational presentations. You can also meet some of the best known collectors and dealers in the world. There is always something to do and learn at one of these events. You will not be disappointed in the time you spend at the convention.





# **Robert Duphorne and the “Other” Bust Quarter Book**

## **Louis Scuderi**

At the 1996 Denver ANA, I purchased my first copy of Duphorne’s “The Early Quarter Dollars of the United States”.<sup>1</sup> A friend had told me about this book and it seemed like a good idea to get one for additional information about bust quarters. It is an interesting and very different book from Browning,<sup>2</sup> with more detailed variety descriptions and a set of charts that help to identify key obverse and reverse diagnostic features. While much of this is of value to the bust quarter collector, the book, with a limited production run, an obscure author and a less than stellar review by Breen in his Encyclopedia<sup>3</sup> has received relatively little attention.

Walter Breen specifically noted,<sup>4</sup>

Duphorne’s recent pamphlet lists the original Browning vars. in serial order, unaccountably relegating the half dozen new discoveries to an appendix rather than integrating them with the text.

Breen even failed to supply bibliographic material on Duphorne within his Encyclopedia<sup>3</sup> reference pages. Breen’s more recent update of the Browning book<sup>5</sup> contains the complete reference, a place of publication (interestingly not listed in Duphorne’s book) and cross lists Duphorne’s number designations (D#) with the Browning numbers. In two cases, specifically 1831 B7 and 1835 B3, Breen<sup>5</sup> comments on Duphorne’s Appendix A listings of “new varieties.”

In the 1998 bust quarter census published in the **John Reich Journal**,<sup>6</sup> Russ Logan noted that Carl Herkowitz<sup>7</sup> had published a significant amount of information on Ard Browning, one of two mysterious numismatists who wrote books about bust quarters. He thanked Carl, but noted “... now who is that Duphorne character.”<sup>6</sup>

After Breen’s comments appeared in 1992 little was heard of Duphorne again. Karl Moulton recently commented on Duphorne, commenting in his online notes<sup>8</sup> that,

Bergen lent his research notes about corrections and new varieties not listed in the original Browning work to R. Duphorne for his rather worthless book about Early Quarter Dollars that was published in 1975. If Mr. Duphorne does indeed exist, he has never come forth to accept the credit or blame for this particular volume.

In 2001 a chance discussion with Jim Coad, a local dealer in Albuquerque, about an early die state of an 1834 B1 bust quarter led to an impromptu discussion of the bust quarter books. Jim asked if there were any new books on the quarters. I told him not yet but that one was (and still is) in the works. We discussed the Browning/Breen book and Duphorne’s book came up during the conversation. I was shocked when Jim said that he used to know Bob Duphorne and actually thought that he had sold him some of the coins pictured in his book.

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## **Robert Duphorne and the “Other” Bust Quarter Book**

Jim said that Duphorne had lived in Albuquerque and that he believed that he had been a member of the Albuquerque Coin Club. Jim had no idea whether Duphorne was still alive but there might be some people around in Albuquerque who knew him. That afternoon on a whim I got out the Albuquerque telephone book and lo-and-behold there was a Robert Duphorne listed! I decided to call but unfortunately there was no answer- and no answering machine. I tried several times over the next few weeks but never got an answer and I figured that I was out of luck. However, I didn't count on Russ Logan, who, when I told him what I had found, emailed me and said<sup>9</sup>

What great news about Duphorne!! Nobody I know knows anything about Duphorne. Both Browning & Duphorne were very obscure numismatics in the eyes of 21st century scholars. Just look at the work of Carl Herkimer, (sic Herkowitz) and Karl Moulton trying to sort out Browning.

When I later emailed Russ about being unable to reach Duphorne I received a two-word email reply<sup>9</sup> from Russ that simply said, “Keep calling!”

In late September 2001 I was finally successful in contacting and interviewing Robert Duphorne. What a wonderful person. He freely talked about the quarters, the book, his life, his current collecting interests, and more. At close to 80 years old at the time, his memory was absolutely fantastic. Because of what I believed to be a reticence on the part of his family towards publishing this information, I have held off until now but would really like to get this on the record before more time passes. In the following I have broken the discussion into two parts, Robert's background, especially those elements that led to the publication of his book, followed by a section on specific information pertaining to bust quarter varieties.

### **Biographical Information**

Robert Duphorne was born in Harper, Kansas on Feb. 19, 1913. He is known to his close friends as Bob. He became a banker in Kansas where he remained until the late 1940's. In 1948 he moved to Taos, New Mexico where he was put in charge of bringing a failing bank back from the brink of insolvency.

In 1951, he moved to Albuquerque, New Mexico where he worked for First National Bank. Over his career he became involved in many national banking committees that required him to travel to other cities, where of course he was able to search for coins by making the rounds of the local coin stores. When possible he also traveled to coin shows to find his bust quarters. He noted that even back in the 1950's, 60's and 70's there wasn't much to find here in Albuquerque (guess not all that much changes). Robert said that he purchased a few coins from auctions but did not generally use auctions to add to his collection. His banking and coin experience also was instrumental in his appointment to the 1972 United States Assay Commission.

Robert started coin collecting in the 1950's, collecting virtually everything. Over time his attention turned to the shorter series, especially two-cent pieces. Finally in the early 1960's he got hooked on bust quarters to the exclusion of other series. As he described his collecting of bust quarters and the writing of the book: “it was a labor of love”.<sup>10</sup>



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## Robert Duphorne and the “Other” Bust Quarter Book

Quite early in his collecting career Duphorne became interested in bust quarter varieties and obtained a copy of the 1925 Browning book. Through the 50s 60s and early 70's he built up his collection of die varieties. During a portion of the same period he also ran a coin store in Albuquerque called “Money Merchants” located in the old Wyoming Mall.

In the early 1970's Duphorne decided that the 50th anniversary of the publication of the Browning book would be a good time to publish a new book on quarters. As Duphorne (and most other quarter collectors) found, the Browning book is difficult to use because of the poor descriptions and lack of diagnostic charts and tables. During his study and collection of die varieties, Duphorne had compiled detailed diagnostic information on each of the varieties in his collection and these became the tables and mating diagrams in his book.

In the 1970's Duphorne retired from his banking job and took a job with a small publisher, Starline Press, in Albuquerque. He worked on designing computer systems for the publication process. In 1974 Duphorne combined all the information that he had collected on bust quarters and wrote his book. At the time of the writing Duphorne estimated that he owned close to 90 percent of the coins illustrated in his book. The major exceptions were the 1796, 1823 and 1827 varieties. In a few cases, he substituted images of higher grade coins from auction catalogues for those that he only had in low grade. His employer Starline Press published the book in limited quantities.

An article in *Coin World* in 1975<sup>11</sup> announced the arrival of the new book. At the time of publication it sold for \$9.95 with a special dealer discount to \$6.00 in quantity. The *Coin World* article describes the book as being “the first new reference on U.S. quarter dollars in half a century”. The author was listed as being manager of The Windsor Group of Albuquerque, New Mexico.

Duphorne was very pleased that the Redbooks of the late 1970's mentioned him by name along with Browning as a source of information on bust quarters. He never actually knew or met Browning, though he did talk to Bergen on occasion and Bergen did share his notes with him. Apparently Duphorne never talked to Breen, or if he did he has no memory of it other than perhaps a chance meeting at a coin show in Albuquerque.

Duphorne continued to collect for a while longer but then sold his original collection locally over a few years time in the late 1980's and early 1990's. Brian Greer apparently purchased some of these coins. The last of these bust quarters, some acquired after his first collection was dispersed, were sold a few years later to a dealer in Albuquerque.

After selling the quarters, Duphorne collected newspapers and magazines. Most recently he turned to collecting rare old books and has a large collection focused on the Rubaiat of Omar Kahayyam (a Persian poet from around 1000 AD). Duphorne is an expert on the many editions of his writings having over 300 different versions in his own collection. In 2001 he was beginning a volume tracing the many editions of the book (over 1000 different versions/publications). His attention to detail at nearly 80 years old was still incredible.



### Specific Bust Quarter Information

During my discussions with Robert and a subsequent chance meeting a few months later in a coin store in Albuquerque, I specifically asked him about the Addendum items,<sup>1</sup> and specifically about his D-92 coin. Breen<sup>5</sup> had noted that Duphorne 92 (obverse #44, reverse #37: Obverse 1831 Browning 5, Reverse 1831 Browning 2), was “the variety confusedly alluded to” by Duphorne. Breen believed that Duphorne got his information from Bergen on this and that he had mistakenly misheard Bergen, who Breen thought was referring to the 31B7 variety. It turns out that Breen was totally wrong on this one. I asked Duphorne whether it was an error in the book on his part. His answer stunned me. He said that he actually owned that coin and did not get this information from Bergen. He only found one of this variety despite a lot of looking, and that the coin was sold very quickly when he dispersed his collection (probably even before Brian Greer had a chance to see it). Which of course would mean that if his identification is correct, there is an 1831 B8 out there somewhere!

After a complete discussion with Duphorne, it is clear that the problem with Breen’s interpretation<sup>5</sup> of the D92 coin probably arose after Breen read the appendix A entry.<sup>1</sup> If you carefully read appendix A you see that Duphorne notes that:

In addition to the commonly known varieties described in this text there are at least six known additional varieties which include four new reverses. Information regarding these has been supplied by Herbert M. Bergen who has made an intensive study of the Bust Quarter varieties.<sup>1</sup>

The key phrase here is “these varieties.” After talking to Duphorne it appears clear that the word “these” refers to the four varieties with new reverses. Therefore, Duphorne got his information about D89, D90, D93 and D94 from Bergen. The D89 coin is now 1805 B10, the D90 coin is now 1806 B10, and the D94 coin is now 1837 B5. All except for the 1837 B5 were examples owned by Bergen and listed in the Breen revision of Browning.<sup>5</sup> Breen actually debunked the D93 coin as far as I can tell (see note on page 142 of the Browning/Breen quarter book following the 1835 B3 description<sup>5</sup>). Breen actually saw the coin HB-1 and concluded that it was really 1835 B2.

That leaves D91 and D92. D91 is easily identified as 1820 B5. For D92, Breen notes “Bergen did not have any such coin: or if he did it did not appear in the sale of his collection.”<sup>5</sup> We now know that Bergen didn’t have it, but Duphorne did. That is why Breen didn’t find it in Bergen’s collection. Breen then made D92 disappear by alluding to a misheard conversation between Bergen and Duphorne. After talking to Duphorne, it is clear that he owned it and that he didn’t make those types of mistakes.

Notice also that the two varieties D91 and D92 do not have any additional description in Duphorne’s book.<sup>1</sup> They were marriages of dies that Duphorne had seen already, described in his book, and in fact had in his possession. From the above, it appears that Duphorne’s choice of the words “these varieties” was probably a poor one. Breen just assumed that Duphorne got all the information on the “six” varieties from Bergen. But Duphorne was actually referring to the four “new” reverse varieties.

Of the Appendix coins, D92, a possible 1831 B8, appears to be the only still unknown variety found/owned by Duphorne. If it actually exists, the position of the C in 25C should be an easy pickup point. The attribution points for this variety would be obverse 1831B5/B7 and reverse 1831B2, which would have the arrow feather ending over the space between the 2 and 5, short thick arrowheads and the olive stem ending just past the serif of C. The eagle would also have a thin tongue, which makes it different from the 1831 B5 and B7, which have no tongue. The fact that one has not turned up even with the relentless searching of a cadre of dedicated bust quarters collectors suggests that if it exists, it is extremely rare.

Approximately six months later, I received some additional and possibly amazing information. Jim Coad found 12 old holders (no coins) with Duphorne’s DXX notations on them. He was going to throw them out (a decade ago) and then forgot about them. Fortunately for me after our 2001 discussion about Duphorne, he found them again and gave them to me. Some are from Duphorne’s original collection and a few are from coins that Duphorne purchased after the book was published and the original collection was dispersed. An itemized list appears in Table 1.

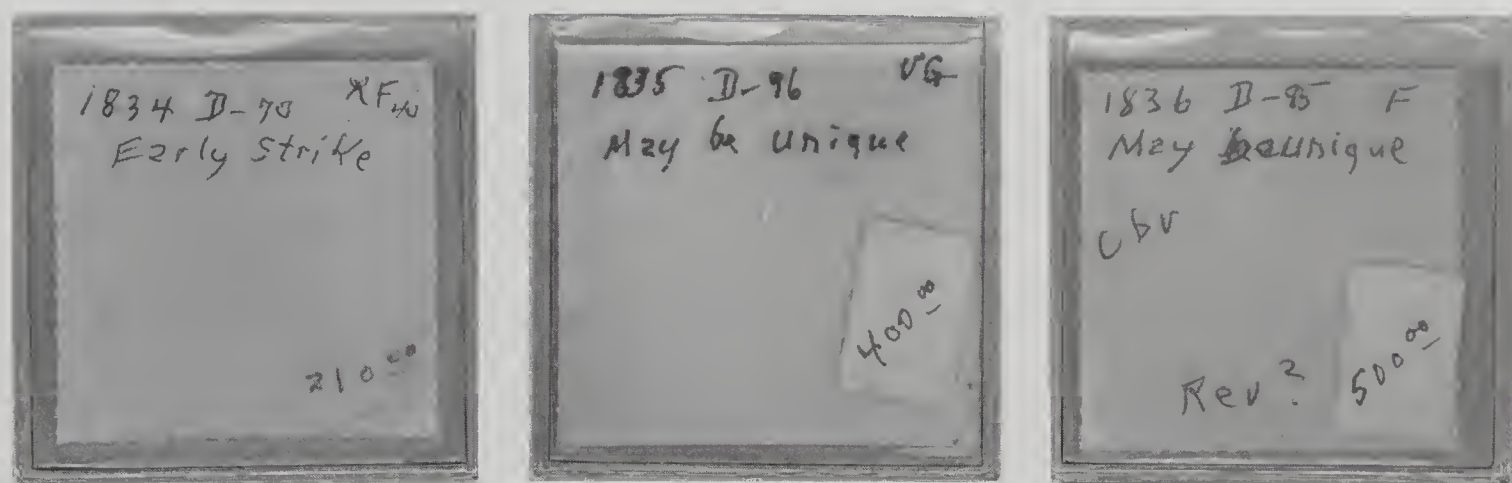
Date	D#	B#	Grade	Price	Comments
1805	5	1	AG	150	
1805	6	2	AG	150	
1806	9	1	G	225	
1806	13	5	F	500	Breen ex. 6, Bergen 14 State I Fine (same coin?)
1807	18	1	F	550	
1807	19	2	G	225	
1821	41	4	VF	225	
1831	59	3	XF	210	
1832	63	1	VF35	155	
1834	70	3	XF40	210	Notation: Early strike (Perhaps an uncracked B3?)
1835	95	?	F	500	Not listed in Duphorne
1836	96	?	VG	400	Not listed in Duphorne

**Table 1. Duphorne coin holder information.**

Of great interest are Duphorne’s D95 and D96 coins. Both are labeled “May be unique” (see Figure 1). The D95 and D96 holders are written in red ink whereas the holders for all of the remaining holders look like they were written at the same time in black ink.

Check the Addendum<sup>1</sup>— it stops at D94. The D95 is an 1836 labeled with “Obv” and “Rev?”. This question mark suggests that the Obverse was a known variety while the reverse was new. The D95, which is labeled F, apparently sold for \$500. The D96, which is an 1835 with no additional labels or information and which is labeled VG, apparently sold for \$400. These two coins sold here in Albuquerque at local coin shows in the mid-1990’s to possibly as late as 1997 according to Jim Coad. There are faint of images on both holders (old PVC type) but not enough to identify anything.





**Figure 1. Duphorne holders for the unknown D-95 and D-96 and a potentially uncracked 1834 D-70 (B3).**

During a subsequent chance meeting with Duphorne in an Albuquerque coin store (his daughter had brought him down to purchase Christmas coins for his grandchildren) and another brief telephone discussion, I was able to ask him about the D95 and D96 coins. He could not recall the specific characteristics of the die marriages, but did confirm that if he had written "Rev?" on the 1836 then it was indeed a reverse that he had not encountered previously. He vaguely remembered the 1835 and thought that it was an early die state of a known obverse and another unknown reverse. I asked Robert and his daughter whether any reference material remained from his book or collection. Unfortunately it appears that most of it was thrown out after he left his job at Starline Press and sold his collection.

### Summary

What I find interesting about Robert Duphorne is that he did most of his collecting in isolation, rarely becoming visible to much of the collecting community. He was able to compile a fairly complete bust quarter collection primarily by searching through dealer stock and very occasionally purchasing a coin from auction. Using this method he was able to acquire over 90 percent of the varieties in his book. Like other quarter collectors past and present, the major holes in his collection were the 1796, 1823 and 1827 varieties.

Of note to collectors who are interested in coin pedigree, many of the coins pictured in his book were from his personal collection. However, he did "borrow" some images from auction catalogs when he only had a very low-grade example in his collection. This of course means that great care must be taken in linking a particular coin imaged in his book to Duphorne himself.

Several anonymous sources who knew Robert described him as a collector of both coins and information. This is important because it may shed some light on the negative views of Breen<sup>3,4</sup> and others. Since he was not very well known to most of the collecting community, his book came as somewhat of a surprise and was viewed with some suspicion. However, in terms of his use of attribution information, he was far ahead of what was normally used in 1975 for most of the capped bust silver. His obverse and reverse identification charts (Charts 1-6)<sup>1</sup> contain information that is now commonly found in the newer books on individual series.<sup>12-14</sup>

## Robert Duphorne and the “Other” Bust Quarter Book

Since Robert Duphorne was such an unknown in numismatic circles, it was easy for a few comments on the part of Walter Breen to color the views of subsequent collectors. It is now obvious that Duphorne took Bergen’s description of the supposedly new 1835 HB-1 variety and included it in his Addendum A as D-93 without actually seeing the coin.<sup>1</sup> This was a mistake and should have been carefully checked before appearing in print. He did however indicate in the Addendum<sup>1</sup> that “The coins have not been available before press time to describe in terms of the standards used for this text.”

It is also quite clear that Breen’s dismissal of the D92 coin was based on a conversation that never occurred. Duphorne himself has now cleared up this confusion on D92 by clarifying that what he actually meant was that the information noted was on four unknown reverses and that it was a poor choice of words on his part that created the confusion. We also now know from Duphorne that he did own this coin and that it was not the 1831 B7 variety.

In addition, the D-95 and D96 holders suggest two possible new varieties in the small sized bust quarter series. Of course this leads to the inevitable conclusion that we should all check the small sized bust quarter series very closely. The recent find of a new half dime variety, 1835 V12/LM12, is a good indicator that there are still a few varieties to be found. In all likelihood these new varieties probably only represented at best by a few examples and may come from dies very similar to known varieties thus explaining why they have not been documented to date. From my discussions with Robert it is obvious that he paid a great deal of attention to identifying attributes of the bust quarters and with specimens in hand he simply did not make attribution errors.



1831 B-2 Obverse Pittman 5-20-98  
Lot 1285



1831 B-5 Reverse Pittman 5-20-98  
Lot 1286

This muleing of photos represent the diagnostics of the “missing” B-8.  
Photos courtesy of David Akers and Tom Mulvaney.

### Acknowledgements

I would like to thank Robert Duphorne for his generosity in sharing information with me, and the Duphorne family for graciously allowing me to talk with their father Robert. I would also like to thank Mike Sherrill, Rory Rea, Jim Coad, Kirk Gorman and Brian Greer for providing information and valuable discussions on this topic. Special thanks to my mentor, the late Russ Logan, who encouraged me to follow up on this topic when it appeared to be going nowhere. Also thanks to two anonymous collectors who provided additional insights that helped clarify some points.



## References

1. Duphorne, R., 1975. The Early Quarter Dollars of the United States. (The Windsor Group and Starline Management Group, Limited) 73p.
2. Browning, Ard W., 1925. Early Quarter Dollars of the United States, 1796-1838. (Wayte Raymond, New York).
3. Breen, Walter. 1988. Walter Breen's Complete Encyclopedia of U.S. and Colonial Coins. (Doubleday, New York) 754p.
4. Ibid. p. 337.
5. Browning, A.W. and Breen, Walter. 1992. The Early Quarter Dollars of the United States 1796-1838. (Bowers and Merena Galleries Inc.) 166p + VIII plates.
6. Logan, Russell J., 1998. Quarter Census. John Reich Journal, 11(2): 21-25.
7. Herkowitz, Carl, 1997. Ard W. Browning through a 1920 Looking Glass. The Asylum. Vol. XV(3), p.8-12.
8. Moulton, Karl, Undated. Ten Favorite Bust Auction Catalogues, [www.coincats.com/BUST%20ARTICLE.pdf](http://www.coincats.com/BUST%20ARTICLE.pdf)
9. Logan, Russell, 2001. Personal communications.
10. Duphorne, Robert, 2001 and 2002. Personal communications.
11. Anonymous, 1975. Quarter dollar new book topic. Coin World.
12. Davis, David J., Logan, Russell J., Lovejoy, Allen F., McCloskey, John W. and Subjack, William L., 1984. Early United States Dimes 1796-1837. John Reich Collectors Society, Ypsilanti, Michigan. 279p.
13. Logan, Russell J. and McCloskey, John W., 1998. Federal Half Dimes 1792-1837. John Reich Collectors Society, Manchester, Michigan. 293p.
14. Peterson, Glenn R., 2000. The Ultimate Guide to Attributing Bust Half Dollars. Money Tree Press, Rocky River, Ohio. 293p.



# What is the Design Within the Clasp on Large Sized Capped Bust Quarters?

Michael Atkins

After purchasing a really nice PCGS AU55+ 1815 quarter recently, I noticed a design or something within the clasp. I had never seen this before, having owned only Capped Bust Quarters graded XF and below. This clearly looked like an “M” turned sideways. I wondered whether my coin had been graffitied or possibly even counter-stamped like other 1815 quarters.

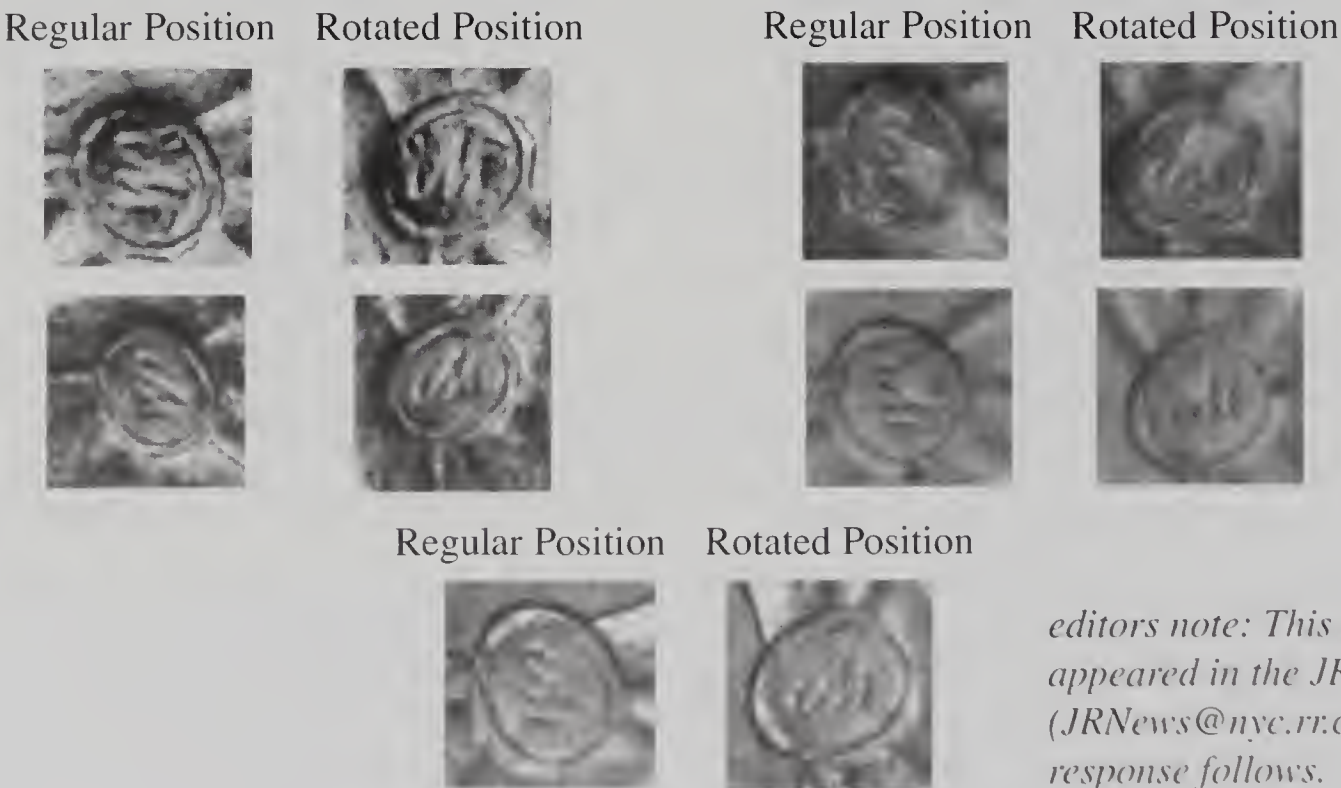
I went online to search out high mint-state graded coins of this type and design. I found the design on every single coin so I knew my coin was not an aberration. I also knew that it did not fully appear on coins graded less than well-struck AU’s, often being completely or even mostly gone on coins graded as high as XF45.

Why would there be an “M” inside the clasp. It is clearly a letter of some sort, not a wavy line or a design element. “M” didn’t make sense because John Reich designed the coin. I showed it to a half dozen dealers and collectors whose combined experience in the field had to be 300 years or more. None had ever noticed this before and all were mystified or stupefied as to what it was and what it meant.

One dealer theorized that the M was actually a “JR” on its side. The fanciful initial leg of the “M” being a J (I can see that) and the rest being an R (that is harder to imagine).

So my question is what is this?

I have five examples below from coins grading MS66-MS68. The image on the left shows the normal position, the image on the right is rotated counter-clockwise to sit the design on its side, where it fully takes on the shape of either an script M or a fanciful JR. If this is actually a JR, wouldn’t it be the first example of a coin designer putting his initial on a coin?



*editors note: This previously appeared in the JRNews (JRNews@nyc.rr.com) response follows.*



## —— What is the Design Within the Clasp on Large Sized Capped Bust Quarters?

Here are two images of the 1815 quarter.



In the next JR Newsletter, the response was:

**Louis Scuderi** writes:

In reply to Mike Atkins in JRNews#69,

Mike,

Philip Evans wrote a brief article in 1997 (JRJ V11(1) whole number 33, pages 25-27) titled "An Overlooked Detail???" which discusses the clasp. He believed that it was some sort of signature by Reich and points to the fact that it disappears on the later bust half hubs which Evans believed were produced by Kneass. To paraphrase Evans "why keep an indicator of John Reich on the coin when you (Kneass) redesigned the hubs".

## — What is the Design Within the Clasp on Large Sized Capped Bust Quarters?

I have always thought that it was a stylized M which of course was John (Johann) Reich's middle initial. Maybe the M is for Mathias (Matthias) and he used this initial rather than JR to distinguish his work from that of his father Johann Christian Reich. According to L. Forrer (Biographical Dictionary of Medalists, 1904), the younger JR collaborated with his father from about 1789 to 1800. Forrer notes that "many of the medals issued during those years with the signature of Reich were the work of both father and son together". Perhaps the M is the younger Reich's way of distinguishing his work from that of his father (who lived until 1814).

However, to throw some further confusion into this theory I note that JR's earlier medal work such as the Washington Medal shows a small R. signature at the truncation of Washington's arm. It is somewhat plain and upright. There is even a better example of the script R. on Reich's 1806 Edward Prebel Comitia Americana medal. It is definitely a script R. and can not be confused with the M which is visible on the images you provided. A good view of this R. can be found at:

[http://www.masshist.org/objects/enlarge.cfm?img=4469\\_composite\\_lg.jpg&queryID=203](http://www.masshist.org/objects/enlarge.cfm?img=4469_composite_lg.jpg&queryID=203)

I do note that the lower tail on the R of this medal signature is very similar to the left lower curve of the M (the fanciful initial leg of the M that you describe). This seems to suggest a letter rather than some mark without meaning.

So what do we know?

- 1) John Reich and his father signed their work.
- 2) The younger JR used a stylized script R. on his medals just prior to initiation of his capped bust coinage.
- 3) The only other Reich marker that we know of is the notched stars on the bust half dollars that disappear about the time he leaves the mint in 1817 (except to reappear mysteriously in the 1820 notched star dimes)
- 4) M was his middle initial- but as far as I can tell he did not use it to sign his earlier work.

Can anyone else add something that I have missed.



1820 JR6 Dime Notched Stars  
ex: Logan #2026



1810 0.104 Half Notched Star 13  
John Reich Signature?





# Flowing Hair and Draped Bust Half Dollar Die Dentil Counts, 1794-1807

**Bryce Brown**

The published use of die dentil counts as a research tool is rarely encountered. However, dentil counts can aid in recognition of die manufacturing trends and die manufacturing sequence when used along with observations of other die design characteristics. The purpose of this article is not to suggest a die manufacturing sequence, but to present dentil count data to the numismatic research community. Following the table, I have detailed what I believe to be some important observations based on study of these early half dollar die dentil counts. How can the use of this data help clarify YOUR research theories?

Year Date	Overton Number	Obverse Die	Reverse Die	Obverse Dentils*	Reverse Dentils*	Notes / (Multiple Year Use Comments)
1794	O.101	1	A	111	111	
1794	O.102	1	B	111	110	(Rev B used in 1795 - see below)
1794	O.103	2	C	112	110	
1794	O.104	2	D	112	110	
1794	O.105	3	E	106	111	
1794	O.106	3	A	106	111	
1794	O.107	4	A	112	111	
1794	O.108	5	A	111	111	
1794	O.109	6	E	108	111	
1794	O.110	2	F	112	111	
1794	O.111	3	G	106	93	Note: reverse dentil count is estimated
1795	O.101	1	A	107	130	
1795	O.102	1	B	107	107	
1795	O.103	1	C	107	106	
1795	O.104	2	C	103	106	
1795	O.105	3	C	106	106	
1795	O.106	1	D	107	127	
1795	O.107	1	E	107	106	
1795	O.108	4	F	104	126	

— Flowing Hair and Draped Bust Half Dollar Die Dentil Counts, 1794-1807

Year Date	Overton Number	Obverse Die	Reverse Die	Obverse Dentils*	Reverse Dentils*	Notes / (Multiple Year Use Comments)
1795	O.109	4	G	104	128	
1795	O.110	5	H	107	127	
1795	O.111	6	I	106	125	
1795	O.112	6	H	102	127	
1795	O.113	7	J	109	105	
1795	O.114	7	K	109	108	
1795	O.115	8	L	107	107	
1795	O.116	8	M	107	130	
1795	O.117	9	N	108	110	(1794 Rev B = 1795 Rev N)
1795	O.118	10	N	109	110	Note: this die marriage is not believed to exist
1795	O.119	10	O	109	110	
1795	O.120	11	N	106	110	(1794 Rev B = 1795 Rev N)
1795	O.121	12	N	109	110	(1794 Rev B = 1795 Rev N)
1795	O.122	13	N	109	110	(1794 Rev B = 1795 Rev N)
1795	O.123	13	P	109	107	
1795	O.124	14	Q	104	107	
1795	O.125	14	R	104	107	
1795	O.126	16	H	130	127	
1795	O.127	16	H	124	127	
1795	O.128	17	S	129	130	
1795	O.129	18	T	108	108	
1795	O.130	18	U	108	108	
1795	O.131	18	V	108	108	
1795	O.132	16	A	106	130	
1795	O.101	1	A	143	151	
1796	O.102	2	A	146	151	(Rev A used in 1797 - see below)
1797	O.101	1	A	148	151	(1797 Rev A = 1796 Rev A)
1797	O.102	1	B	148	149	



————— Flowing Hair and Draped Bust Half Dollar Die Dentil Counts, 1794-1807

Year Date	Overton Number	Obverse Die	Reverse Die	Obverse Dentils*	Reverse Dentils*	Notes / (Multiple Year Use Comments)
1801	O.101	1	A	164	166	
1801	O.102	1	B	164	162	(Rev B used in 1802 - see below)
1802	O.101	1	A	169	162	(1802 Rev A = 1801 Rev B)
1803	O.101	1	A	173	159	
1803	O.102	1	B	173	167	
1803	O.103	1	C	173	165	
1803	O.104	2	C	170	165	(Rev C used in 1805 - see below)
1805	O.101	1	A	166	153	
1805	O.102	1	B	166	153	(Rev B used in 1806, see below)
1805	O.103	2	C	153	153	
1805	O.104	3	C	153	153	
1805	O.105	4	C	153	153	(Obv 4 used in 1806, see below)
1805	O.106	4	D	153	153	
1805	O.107	5	E	153	153	
1805	O.108	5	B	153	153	
1805	O.109	6	F	153	153	
1805	O.110	7	B	169	153	
1805	O.111	7	G	169	153	
1805	O.112	7	H	169	165	(1805 Rev H = 1803 Rev C)
1805	O.113	7	I	169	153	
1805	O.114	5	B	153	153	
1806	O.101	1	A	153	153	
1806	O.102	1	B	153	153	
1806	O.103	1	C	153	153	
1806	O.104	2	D	153	153	(1806 Obv 2 = 1805 Obv 4; 1806 Rev D = 1805 Rev B)
1806	O.105	3	B	160	153	

— Flowing Hair and Draped Bust Half Dollar Die Dentil Counts, 1794-1807

Year Date	Overton Number	Obverse Die	Reverse Die	Obverse Dentils*	Reverse Dentils*	Notes / (Multiple Year Use Comments)
1806	O.106	4	B	153	153	
1806	O.107	4	E	153	153	
1806	O.108	4	F	153	153	
1806	O.109	5	G	153	153	
1806	O.110	6	H	153	153	
1806	O.111	7	H	154	153	
1806	O.112	7	I	154	153	
1806	O.113	8	I	153	153	
1806	O.114	9	L	155	153	
1806	O.115	9	K	155	153	
1806	O.116	9	L	155	153	
1806	O.117	9	M	155	153	(Rev M used in 1807 - see below)
1806	O.118	10	N	158	153	
1806	O.119	10	O	158	153	
1806	O.120	10	P	158	153	
1806	O.121	10	M	158	153	
1806	O.122	10	R	158	153	
1806	O.123	11	Q	158	153	
1806	O.124	11	S	158	153	
1806	O.125	5	T	153	153	
1806	O.126	10	U	158	153	
1806	O.127	12	H	153	153	
1806	O.128	11	L	158	153	
1806	O.129	13	L	(?)	153	Note: obverse dentil count undetermined
1806	O.130	11	K	158	153	
1807	O.101	1	A	155	153	
1807	O.102	2	A	154	153	



— Flowing Hair and Draped Bust Half Dollar Die Dentil Counts, 1794-1807

Year Date	Overton Number	Obverse Die	Reverse Die	Obverse Dentils*	Reverse Dentils*	Notes / (Multiple Year Use Comments)
1807	O.103	2	B	154	<b>153</b>	
1807	O.104	3	B	<b>154</b>	153	
1807	O.105	4	C	<b>158</b>	<b>153</b>	
1807	O.106	4	D	158	<b>153</b>	
1807	O.107	4	E	158	<b>153</b>	
1807	O.108	5	F	<b>153</b>	153	(1807 Rev F = 1806 Rev M)
1807	O.109	6	F	<b>153</b>	153	
1807	O.110	7	F	<b>157</b>	153	
1807	O.115	12	B	<b>153</b>	153	
1807 CB	O.111	8	H	<b>141</b>	<b>188</b>	Note: all dies with a link to the 1807 date were studied
1807 CB	O.112	9	H	<b>142</b>	188	Note: all dies with a link to the 1807 date were studied
1807 CB	O.113	10	I	<b>152</b>	<b>148</b>	Note: all dies with a link to the 1807 date were studied
1807 CB	O.114	11	J	<b>145</b>	<b>151</b>	Note: all dies with a link to the 1807 date were studied
1808/7 CB	O.101	1		<b>136</b>		Note: all dies with a link to the 1807 date were studied
* Dentil Counts in BOLD indicate first (Overton) die appearance						

## Some “Points to Ponder” Regarding Early Half Dollar Die Dentil Counts

1) Were dentils (or helpful locating marks) placed on the reverse master die or working hub starting in 1805? Was a “gang” or “ring” punch used to punch dentils into individual working dies? In 1805 (neglecting the “leftover” 1805 reverse H (1803 reverse C)), there began an unprecedented string of (33) reverse dies with identical dentil counts that ran through the end of draped bust production in 1807. This consistent dentil pattern coincides EXACTLY with the introduction of Reverse Sub-Design #3, as described by Bill Nyberg in his article “Master Die and Hub Changes for Draped Bust, Heraldic Eagle Half Dollars and 1799-1804 Eagle Reverses”. Looking further, Bill identifies three Eagle reverses as being Sub-Design #3 (1803 D,E; and 1804 A). Do these three reverses also have 153 dentils? You bet they do!

— Flowing Hair and Draped Bust Half Dollar Die Dentil Counts, 1794-1807

1a) Was the same procedure used around the same time with obverse dies as well? Obverse Design Type #1 (used from 1801 through 1805 obverses 1 and 7) was replaced by Obverse Sub-Design #2 (again, see Bill Nyberg’s article). At least the first six obverse dies of Sub-Design #2 (1805 obverses 2,3,4,5,6 and 1806/5 obverse 1) share the dentil count of 153. Following that point, only 8 of the 19 subsequent obverse dies (all dated 1806 or 1807) share a dentil count of 153 (pending a proper count of 1806 obverse 13). Perhaps more study can suggest why the trend (and it certainly looks like a trend) was broken with the obverse dies.

2) Was 1794 reverse G the “prototype” (first) reverse die? Consider the unusually low dentil count, along with the relatively crude dentil and character placement.

3) There appears to be a dramatic shift higher in dentil counts toward the end of 1795 half dollar production. The following is an example of how dentil counts can be used with other die characteristic observations to help put non-die-linked die marriage groups in proper emission-order sequence (or at least try!). Working through a thought process:1) Unusually high dentil counts occur in (4) different die-linked groups of die marriages in 1795. Edge die and eagle wing characteristics tell us that these (4) groups were struck later in 1795, rather than earlier. Also, dentil counts jump from 1795-1796. Perhaps these (4) groups are the last of 1795...2) The three “small head” obverses, which are usually attributed to engraver John Gardner, happen to be the only obverses with high dentil counts. The reverses also have high dentil counts. Assuming a sharp transition from low to high dentil count dies, the groups can be ordered as shown below. 3) Further, the high-dentil-count reverse dies also have thicker, less wavy wreath branches, and a few more wreath leaves than typical. This is enough of a stylistic change to suggest that Gardiner engraved the high-dentil-count reverses as well.

4) The individual die marriages can then placed in an order that ensures a step-wise die link (albeit a big assumption). Finally, numerous coins would be studied for signs of sequential die deterioration (obverse, reverse, and edge) that would show if the die-marriage order is correct.

Year Date	Overton Number	Obverse Die	Reverse Die	Obverse Dentils	Reverse Dentils	Liberty Head	Wreath Branch	Leaves Left-Rt
<i>(1795 Group 7); (author’s note: all 1795 die marriages NOT listed in the following groups comprise “1795 Groups 1 through 6” and precede these in the emission sequence)</i>								
1795	O.104	2	C	103	106			
1795	O.105	3	C	106	106	typical	thin	22-22
1795	O.103	1	C	107	106	typical	thin	22-22
1795	O.102	1	B	107	107	typical	thin	22-22
1795	O.107	1	E	107	106	typical	thick	22-22
1795	O.106	1	D	107	127	typical	thick	22-24
1795	O.101	1	A	107	130	typical	thick	24-24
1795	O.132	19	A	106	130	typical	thick	24-24



— Flowing Hair and Draped Bust Half Dollar Die Dentil Counts, 1794-1807

Year Date	Overton Number	Obverse Die	Reverse Die	Obverse Dentils	Reverse Dentils	Liberty Head	Wreath Branch	Leaves Left-Rt
<b>(1795 Group 8)</b>								
1795	O.108	4	F	104	126	typical	thick	23-24
1795	O.109	4	G	104	128	typical	thick	23-24
<b>(1795 Group 9)</b>								
1795	O.111	6	I	106	125	typical	thick	24-24
1795	O.112	6	H	106	127	typical	thick	23-24
1795	O.110	5	H	107	127	typical	thick	23-24
1795	O.126	15	H	130	127	"small"	thick	23-24
1795	O.127	16	H	124	127	"small"	thick	23-24
<b>(1795 Group 10)</b>								
1795	O.128	17	S	129	130	"small"	thick	23-25

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References:

Al C. Overton, Early Half Dollar Die Varieties 1794-1836, Third Edition, 1990  
Bill Nyberg, Master Die and Hub Changes for Draped Bust, Heraldic Eagle Half Dollars and 1799-1804 Eagle Reverses, 2006.



1805/4 O.101  
Draped Bust Half Dollar



# R4 to R8 Capped Bust Half Dollar Census

**Stephen J. Herrman**

Presented here is the fourth R4 to R8 Capped Bust half dollar survey to be published in the **John Reich Journal**. The last census appeared in July 2004, Volume 16 / Issue 1. The first and second censuses coordinated by the late Russell J. Logan were published in the January 1994 issue and the December 1999 issue, respectively.

The rarity rating estimates used in this census are based on the latest Bust Half Nut Club (BHNC) study undertaken in 2003-2004. The results of that study were presented at the August 2004 ANA convention in Pittsburgh, and were later published in the June 2005 **John Reich Journal**, Volume 16 / Issue 3. The rarity ratings were adjusted for a number of Capped Bust half dollar die marriages—105 are currently estimated to be R4 or higher.

It is important to note that the BHNC began including plus and minus designations for the higher rarity levels in 1998 in order to provide a more refined estimate of the availability for each marriage. Unfortunately, the plus and minus designations were not utilized in the 4th edition of Early Half Dollar Die Varieties 1794-1836.

Below is a reference table listing the rarity rating levels used in this census report and the corresponding estimated number of coins known for each level.

<u>Rating</u>	<u>Est Nbr</u>	<u>Rating</u>	<u>Est Nbr</u>	<u>Rating</u>	<u>Est Nbr</u>
R8	1-3	R6-	25-30	R4-	161-200
R7+	4-6	R5+	31-46	R3	201-500
R7	7-9	R5	47-63	R2	501-1000
R7-	10-12	R5-	64-80	R1	over 1000
R6+	13-18	R4+	81-120		
R6	19-24	R4	121-160		



1809 0.104  
Capped Bust Half Dollar



Two tables follow as part of this report. The first table presents the census of the top 15 collections submitted. Each collection is identified by the submitter's membership number. The second table presents the census by grade. Listed are the top 15 coins for each variety as graded by the submitters.

56 members submitted their inventory listings for inclusion in this census report—a total of 3,181 coins. Thank you to everyone who participated.

R4 to R8 Capped Bust Half Dollar Census by Collection																				
YEAR	VAR	R	007	323	692	474	838	1006	185	739	418	1198	978	019	062	987	138	TOT	AVG	MAX
1807	111	4+	55	35	40	40	25	20	15	15	50	20	35	12	12	35	25	42	24	55
1808	110	4+	58	50	45	50	15	40	40	45	55	45	53	20	35	25	40	39	32	58
1809	101	5	50	35	45	20	25	30	12	12	30	20	10	30	8	25	20	30	24	50
1809	104	5-	50	48	35	35	20	40	40	6	40	45	25	40	8	25	30	29	31	55
1809	108	4	45	45	43	45	25	20	45	45	40	45	20	20	20	25	15	43	29	55
1809	110	4+	63	40	43	40	45	40	40	12	35	53	35	15	45	8	12	37	29	63
1809	112	5-	40	48	40	40	25	25	30	25	53	40	20	25	30	30	55	38	30	58
1809	113	5	53	50	25	35	25	40	30	8	20	25	12	20	30	30	20	23	25	53
1809	114	5	45	50	25	30	15	25	25	15	30	45	10	20	30	25	15	31	24	50
1811	102	4	55	45	43	50	40	40	45	55	58	53	40	30	30	15	25	35	38	62
1811	107	4	50	61	40	40	45	40	40	40	30	50	25	20	40	30	55	37	38	61
1811	112	4-	60	50	53	61	40	45	40	35	53	58	45	40	30	40	40	46	38	63
1811	113	5	62	58	43	40	15	30	40	25	40	12	35	20	20	10	30	32	31	62
1812	101	5-	30	30	40	20	30	20	20	10	40	30	12		25		30	19	30	50
1813	102	4	62	60	40	53	35	40	35	35	58	50	35	20	40	30	30	36	40	62
1813	104	4	60	50	35	53	40	40	30	35	45	55	45	35	30	30	25	33	36	61
1814	106	4+	60	50	40	50	30	40	12	12	45	58	35	20	40	45	30	37	36	60
1817	102	7	40					15										2	28	40
1817	104	6	60	40	43	30		40	4								15	9	37	60
1817	105	4-	50	45	40	45	45	45	30	40	50	45	45	30	20	35	40	52	36	58
1817	108	4	63	50	35	45	35	30	25	35	58	45	45	35	30	20	45	38	39	63
1818	110	4	45	45	40	45	45	40	45	25	62	45	35	35	20	40	30	37	37	63
1818	115	4+	55	40	43	50	30	40	30	35	40	45	45	35	40	30	40	45	34	55
1819	103	4	62	58	45	45	30	45	50	45	58	50	50	20	40	10	30	52	38	62
1819	106	4	60	50	30	55	40	45	35	45	45	61	55	30	25	30	55	36	38	61
1820	104	4+	58	45	30	40	40	40	20	25	45	40	40	15	20	40	25	41	34	58
1820	107	5	50	55	48	45	15	40	40	25	61	40	40	30	30	40	40	25	35	61
1822	102	4+	55	50	45	40	30	40	20	30	45	45	25	20	35	40	25	37	34	55
1822	103	5-	50	50	48	62	40	40	40	15	58	35	30	30	20	10	40	35	34	63
1822	112	4	58	50	55	62	35	40	40	30	30	50	40	30	40	45	30	28	40	62
1823	102	4	50	58	43	58	30	30	45	40	50	50	40	40	45	30	15	34	40	58
1823	109	5+	64	20	25	30	25	25	45	20	50	25	20	55		15	12	21	31	64
1823	113	7	30	30	28													4	28	30
1824	102	5+	58	58	30	45	20	15	35	25	40	20	12	30	20	20	40	29	26	58
1824	112	4	55	55	43	50	30	40	50	50	50	50	50	35	45	20	45	36	42	60
1824	114	5-	50	30	35	40	20	30	15	15	62	30	50	20	20	15	10	31	28	62
1825	103	4-	50	45	50	53	50	40	50	45	61	50	30	20	30	20	35	39	41	61



YEAR	VAR	R	007	323	692	474	838	1006	185	739	418	1198	978	019	062	987	138	TOT	AVG	MAX
1825	104	4+	53	61	50	63	53	12	40	20	50	50	20	20	35	20	35	36	35	63
1825	109	5	63	40	50	40	25	64	35	20	62	50	15	25	45	20	35	34	33	64
1825	117	4	50	50	48	53	40	55	63	40	50	55	30	45	50	40	45	36	46	63
1825	118	8	30															1	30	30
1826	103	5-	63	40	58	45	40	45	40	20	45	50	35	45	30	30	30	31	37	63
1826	114	4+	63	62	40	55	45	50	45	30	53	50	40	40	30	40	40	33	43	64
1826	115	5-	64	40	50	45	40	45	45	30	55	45	35	45	30	35	45	35	39	64
1826	119	4-	61	61	40	48	40	40	40	40	45	53	15	40	40	53	40	39	39	63
1826	120	4-	64	45	43	45	50	55	35	50	55	58	40	30	40	58		32	42	64
1827	103	4	60	50	43	53	45	35	40	40	58	58	20	40	20	45	20	32	42	63
1827	108	4-	55	62	45	58	50	58	40	50	48	53	35	40	40	40	25	41	45	63
1827	109	4-	55	40	55	62	50	45	40	50	53	50	35	40	35	40	45	39	44	63
1827	110	4-	62	62	48	50	40	53	45	35	55	45	40	20	45	40	30	35	43	62
1827	111	4	55	63	43	50	40	45	45	30	40	53	50	45	50	30	40	36	44	63
1827	113	4-	62	58	45	48	40	50	40	35	50	58	45	30	45	45	25	37	42	62
1827	116	4+	63	58	50	48	50	30	40	25	50	58	25	45	40	50	30	38	39	63
1827	122	5	50	58	30	30	30	45	35	8	55	30	10	25	20	25	30	27	31	64
1827	123	5-	55	55	35	45	50	30	40	30	58	40	25	25	30	20	30	37	36	62
1827	124	5+	45	30	35	50	30	30	20	30	62	40	12	20	30		15	26	32	62
1827	127	5	50	40	40	40	50	30	50	15	58	40	35	40	30	35	8	25	34	58
1827	128	4-	64	55	40	45	45	50	45	40	58	53	25	20	40	20	55	33	41	64
1827	129	4-	50	45	45	55	53	45	45	50	62	55	30	30	45	30	25	37	41	62
1827	133	4	62	50	50	55	40	53	50	50	45	45	35	40	45	50	30	36	41	62
1827	134	4	58	55	45	45	40	45	40	45	50	53	25	20	40	30	40	32	42	58
1827	136	4	55	55	55	53	40	40	30	55	40	50	45	15	50	30	35	38	43	64
1827	137	6	61	55	43	35	12					30						11	31	61
1827	138	4	64	58	45	53	40	25	40	58	58	45	25	45	30	30	45	34	40	64
1827	139	4-	61	45	45	45	45	40	55	30	58	58	40	35	40	35	35	41	42	61
1827	140	4+	50	63	58	55	35	45	20	45	45	45	45	40	40	30	55	42	37	63
1827	144	5+	63	45	25	40	25	45	30	45	40	20	35	25	30		30	23	35	63
1827	145	5	55	40	35	45	40	35	53	40	58	35	15	25	40	45	55	28	37	58
1827	147	4	62	45	43	62	35	45	40	45	45	55	20	35	45	25	50	39	42	62
1827	148	6+	40	10	35		10			45								6	27	45
1827	149	8	45	25														2	35	45
1828	105	5	63	40	40	48	30	40	58	35	58	45	45	35	35	45	10	29	39	63
1828	106	4+	55	58	43	50	50	45	40	30	40	55	45	30	40	55	12	31	42	61
1828	111	4	50	55	43	45	40	30	40	25	40	45	20	35	25	15	20	36	37	63
1828	123	5+	63	40	40	35	15	53	12	50	58	25	30	40	45	40	30	25	37	63
1829	106	5-	50	58	45	53	45	64	40	45	60	40	12	40	25	35	30	30	39	64
1829	109	4+	55	50	50	62	35	35	30	45	45	55	50	20	30	20	35	36	37	64
1829	118	4+	55	50	45	48	35	40	40	30	45	35	30	35	40	30	30	31	37	55
1829	120	8	20															1	20	20
1830	105	4	60	50	35	45	45	55	40	50	30	53	30	15	25	40	30	34	40	60
1830	112	4+	60	55	40	53	40	40	35	45	40	50	40	50	35	45	20	38	37	60
1830	114	5	58	45	40	45	20	40	25	8	58	40	10	20		30	30	18	33	58
1831	113	4	50	55	43	48	40	45	35	40	55	50	35	45	40	45	25	32	40	61
1831	115	4	58	50	45	53	45	40	25	55	55	53	35	30	30	40	35	33	42	63
1831	117	4	50	45	58	40	45	40	35	30	45	40	45	20	30	50	30	32	39	60
1831	120	6	45	30	18	10	30		25	6	20						20	13	24	50



YEAR	VAR	R	007	323	692	474	838	1006	185	739	418	1198	978	019	062	987	138	TOT	AVG	MAX
1832	109	4	50	63	40	61	40	20	45	50	45	50	30	40	50	40	40	40	40	63
1832	114	4+	55	58	40	50	40	30	20	40	55	55	45	40	20	30	35	31	40	63
1832	117	4+	50	60	48	48	50	40	45	35	58	45	53	30	50	15	35	44	38	60
1832	119	4-	62	50	45	55	50	45	50	45	58	53	30	50	40	35		32	46	63
1832	123	7	50															1	50	50
1833	111	4+	50	50	55	45	40	45	35	40	45	40	40	30	40	25	35	33	37	63
1833	115	5+	62	25	43	35	30	20	30	12	30	35	15	35	20	25	35	27	27	62
1833	116	7																		
1834	118	4	45	58	48	45	50	58	45	45	53	50	45	35	40	25	35	35	45	60
1834	119	4	62	53	45	58	58	45	40	40	55	45	45	25	30	35	45	35	41	62
1834	120	4	60	50	58	40	53	40	40	55	55	55	30	58	30	40		34	44	60
1834	122	7																		
1835	111	8																		
1836	103	4-	30	45	43	55	40	40	50	45	30	50	25	45	50	40		29	41	61
1836	105	4-	64	50	48	50	50	30	40	50	61	50	30	40	45	50	40	30	42	64
1836	107	4	58	55	40	58	50	30	45	45	45	55	30	20	45	40	40	33	41	61
1836	120	4-	55	55	43	55	40	45	55	45	45	55	40	40	40	55	45	33	44	62
1836	121	5+	55	25	48	30	50	20	25	30	45	40	12	8	40	12	25	20	32	55
1836	123	4	61	45	45	55	50	45	40	45	50	50	40	30	30	45		35	42	61
TOTAL VARS			102	98	97	95	95	94	94	94	93	93	92	91	90	89	89	3181	37.4	
AVG GRADE			54.5	48.2	42.4	46.7	36.9	38.9	36.9	34.4	48.7	45.4	32.4	31.1	33.9	32.4	31.9			

R4 to R8 Capped Bust Half Dollar Census by Grade																				
YEAR	VAR	R	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOT	AVG	MAX
1807	111	4+	55	53	50	50	45	40	40	35	35	35	35	30	30	30	25	42	24	55
1808	110	4+	58	55	55	55	53	50	50	45	45	45	45	45	40	40	40	39	32	58
1809	101	5	50	50	45	45	45	35	35	30	30	30	30	25	25	25	20	30	24	50
1809	104	5-	55	50	50	48	45	45	45	40	40	40	40	40	35	35	30	29	31	55
1809	108	4	55	45	45	45	45	45	45	45	43	40	40	40	40	30	30	43	29	55
1809	110	4+	63	60	53	45	45	45	45	45	45	43	40	40	40	40	40	37	29	63
1809	112	5-	58	55	53	48	45	45	40	40	40	40	40	40	35	35	30	38	30	58
1809	113	5	53	50	40	40	40	35	30	30	30	25	25	25	20	20	20	23	25	53
1809	114	5	50	45	45	45	45	35	30	30	30	30	30	25	25	25	25	31	24	50
1811	102	4	62	58	58	55	55	55	53	50	50	45	45	45	45	43	40	35	38	62
1811	107	4	61	60	58	55	35	53	50	50	45	45	45	45	45	40	40	37	38	61
1811	112	4-	63	61	60	60	58	58	58	53	53	50	50	50	45	45	45	46	38	63
1811	113	5	62	58	58	50	45	45	45	43	40	40	40	40	40	35	30	32	31	62
1812	101	5-	50	50	45	40	40	40	30	30	30	30	30	30	25	25	20	19	30	50
1813	102	4	62	60	60	60	58	58	58	55	55	53	30	45	45	40	40	36	40	62
1813	104	4	61	60	55	55	53	53	50	50	45	45	40	40	40	35	35	33	36	61
1814	106	4+	60	58	58	55	50	50	50	50	50	45	45	45	45	45	40	37	36	60
1817	102	7	40	15														2	28	40
1817	104	6	60	60	43	40	40	40	30	15	4							9	37	60
1817	105	4-	58	58	50	50	50	50	45	45	45	45	45	45	45	45	45	52	36	58
1817	108	4	63	58	58	55	53	50	50	50	45	45	45	45	45	45	45	38	39	63
1818	110	4	63	63	62	58	50	45	45	45	45	45	45	45	40	40	40	37	37	63



YEAR	VAR	R	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOT	AVG	MAX
1818	115	4+	55	53	50	50	45	45	45	45	45	45	45	43	40	40	40	45	34	55
1819	103	4	62	58	58	58	55	55	55	53	50	50	50	45	45	45	45	52	38	62
1819	106	4	61	60	58	58	55	55	55	55	55	50	50	50	45	45	45	36	38	61
1820	104	4+	58	58	55	53	53	50	50	50	45	45	45	45	45	43	40	41	34	58
1820	107	5	61	60	55	50	48	45	40	40	40	40	40	40	40	40	35	25	35	61
1822	102	4+	55	50	50	50	50	45	45	45	45	45	40	40	40	40	40	37	34	55
1822	103	5-	63	62	58	58	50	50	50	48	45	40	40	40	40	40	38	35	34	63
1822	112	4	62	58	58	55	53	53	50	50	50	45	40	40	40	40	40	28	40	62
1823	102	4	58	58	58	58	55	50	50	50	50	50	45	45	45	45	43	34	40	58
1823	109	5+	64	55	50	45	45	45	45	35	30	25	25	25	25	20	20	21	31	64
1823	113	7	30	30	28	25												4	28	30
1824	102	5+	58	58	45	45	45	40	40	35	35	30	30	30	25	25	20	29	26	58
1824	112	4	60	58	55	55	55	50	50	50	50	50	50	50	45	45	45	36	42	60
1824	114	5-	62	55	50	50	50	50	50	40	40	35	30	30	30	30	30	31	28	62
1825	103	4-	61	60	58	58	55	55	55	55	53	50	50	50	50	50	50	39	41	61
1825	104	4+	63	63	61	60	55	53	53	53	50	50	50	45	45	40	40	36	35	63
1825	109	5	64	63	62	60	55	50	50	45	45	45	45	40	40	40	35	34	33	64
1825	117	4	63	63	58	58	55	55	55	53	50	50	50	50	50	50	50	36	46	63
1825	118	8	30															1	30	30
1826	103	5-	63	58	58	58	50	50	50	45	45	45	45	45	40	40	40	31	37	63
1826	114	4+	64	63	62	58	55	55	55	53	53	50	50	50	50	50	45	33	43	64
1826	115	5-	64	61	55	55	50	50	45	45	45	45	45	45	45	40	40	35	39	64
1826	119	4-	63	61	61	58	55	53	53	53	50	50	48	45	45	45	45	39	39	63
1826	120	4-	64	58	58	58	55	55	55	53	50	50	50	50	45	45	45	32	42	64
1827	103	4	63	62	60	60	58	58	58	53	50	50	50	45	45	45	43	32	42	63
1827	108	4-	63	62	58	58	58	58	55	55	55	55	53	53	50	50	50	41	45	63
1827	109	4-	63	62	62	58	55	55	55	55	55	53	50	50	50	50	50	39	44	63
1827	110	4-	62	62	58	55	55	55	55	53	53	53	50	50	50	50	50	35	43	62
1827	111	4	63	58	58	58	58	55	55	55	53	53	50	50	50	50	50	36	44	63
1827	113	4-	62	61	58	58	55	55	53	50	50	50	48	45	45	45	45	37	42	62
1827	116	4+	63	62	58	58	55	55	50	50	50	50	50	50	50	48	45	38	39	63
1827	122	5	64	58	55	50	45	45	40	40	35	35	30	30	30	30	30	27	31	64
1827	123	5-	62	60	58	55	55	55	55	50	50	45	45	40	40	40	40	37	36	62
1827	124	5+	62	60	50	45	45	45	40	35	35	35	30	30	30	30	30	26	32	62
1827	127	5	58	55	50	50	45	40	40	40	40	40	40	40	40	35	35	25	34	58
1827	128	4-	64	60	58	58	58	55	55	55	53	50	50	45	45	45	45	33	41	64
1827	129	4-	62	61	60	58	55	55	55	53	50	50	50	50	45	45	45	37	41	62
1827	133	4	62	58	55	55	55	53	53	50	50	50	50	50	45	45	45	36	41	62
1827	134	4	58	58	55	55	55	53	50	50	48	45	45	45	45	45	45	32	42	58
1827	136	4	64	58	58	58	58	55	55	55	55	55	55	55	55	53	50	38	43	64
1827	137	6	61	55	45	43	35	30	25	20	12	10	10					11	31	61
1827	138	4	64	58	58	58	55	53	50	50	50	45	45	45	45	45	45	34	40	64
1827	139	4-	61	58	58	58	55	55	53	53	50	50	50	50	50	45	45	41	42	61
1827	140	4+	63	62	58	55	50	50	45	45	45	45	45	45	45	45	45	42	37	63
1827	144	5+	63	58	55	45	45	45	45	40	40	40	40	35	35	30	30	23	35	63
1827	145	5	58	55	55	55	53	45	45	45	45	45	40	40	40	40	40	28	37	58
1827	147	4	62	62	61	60	58	58	55	55	53	50	50	50	50	45	45	39	42	62
1827	148	6+	45	40	35	20	10	10										6	27	45
1827	149	8	45	25														2	35	45



YEAR	VAR	R	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOT	AVG	MAX
1828	105	5	63	60	58	58	58	58	50	48	45	45	45	45	45	40	40	29	39	63
1828	106	4+	61	58	55	55	55	55	53	50	50	50	45	45	45	45	43	31	42	61
1828	111	4	63	58	55	55	50	50	50	45	45	45	45	43	40	40	40	36	37	63
1828	123	5+	63	58	53	50	50	50	50	45	40	40	40	40	40	40	35	25	37	63
1829	106	5-	64	61	60	58	55	53	50	50	50	45	45	45	40	40	40	30	39	64
1829	109	4+	64	62	55	55	50	50	50	50	45	45	45	45	45	45	45	36	37	64
1829	118	4+	55	55	53	50	48	45	45	45	43	40	40	40	40	40	40	31	37	55
1829	120	8	20															1	20	20
1830	105	4	60	60	58	58	55	55	53	50	50	50	45	45	45	45	40	34	40	60
1830	112	4+	60	58	55	55	53	50	50	50	45	45	45	45	45	45	45	38	37	60
1830	114	5	58	58	45	45	40	40	40	40	35	35	30	30	25	20	20	18	33	58
1831	113	4	61	58	55	55	53	50	50	50	48	45	45	45	45	45	45	32	40	61
1831	115	4	63	58	58	58	55	55	55	53	53	53	50	50	45	45	45	33	42	63
1831	117	4	60	58	58	53	50	50	45	45	45	45	45	45	40	40	40	32	39	60
1831	120	6	58	45	30	30	25	25	20	20	20	18	12	10	6			13	24	50
1832	109	4	63	61	58	58	55	53	50	50	50	50	50	50	50	45	45	40	40	63
1832	114	4+	63	58	55	55	55	55	53	58	58	45	45	45	45	40	40	31	40	63
1832	117	4+	60	58	58	58	58	55	53	53	58	50	50	58	50	48	48	44	38	60
1832	119	4-	63	62	62	58	58	55	55	55	55	55	53	58	58	58	58	32	46	63
1832	123	7	50															1	50	50
1833	111	4+	63	58	55	53	58	50	58	45	45	45	45	40	40	40	40	33	37	63
1833	115	5+	62	50	43	35	35	35	35	30	30	30	30	30	25	25	25	27	27	62
1833	116	7																		
1834	118	4	60	58	58	58	58	58	55	55	53	53	50	50	50	50	50	35	45	60
1834	119	4	62	60	58	58	58	55	55	55	53	53	53	58	45	45	45	35	41	62
1834	120	4	60	60	58	58	58	58	55	55	55	55	55	55	53	53	50	34	44	60
1834	122	7																		
1835	111	8																		
1836	103	4-	61	55	55	53	58	50	50	58	58	58	45	45	45	45	43	29	41	61
1836	105	4-	64	61	58	55	55	55	50	50	50	50	50	50	50	48	45	30	42	64
1836	107	4	61	58	58	58	55	55	55	55	53	58	45	45	45	45	45	33	41	61
1836	120	4-	62	62	55	55	55	55	55	55	55	53	53	45	45	45	45	33	44	62
1836	121	5+	55	58	58	48	45	45	40	40	35	30	30	25	25	25	20	29	32	55
1836	123	4	61	61	60	58	58	55	55	55	55	53	50	50	50	45	45	35	42	61

## Bust Dollar Collectors Your Census is Next!

Please send your contribution to:

JRCS Dollar Census  
PO Box 135  
Harrison, OH 45030

or

wdperki@attglobal.net



# **Response to the "Broken F" Issue on the Reverse of Half Dollars and Eagles (1804-07)**

**John (JD) Dannreuther**

The reverse of the Plain 4 1804 Proof Eagle is a leftover die from 1803-04 era (just as the obverse die, which had the numbers 180 in the die and a 4 added from the half dollar punch set used in 1834) and is the only Eagle die with a completely broken right foot of F, although BD-6 of 1803 has the broken inner right foot of A, as do several of the half dollar dies. The reverse of the 1804 Crosslet 4 is the same as BD-6 of 1803 (these 1803's were struck after the 1804's), so it also has the broken A's.

I disagree with the conclusion reached in the recent JRCS Journal that the late state half dollar WITH the right foot of F was caused by excessive lapping. I have never seen an instance where lapping added detail. This right foot of F started breaking with the making of dies in 1803, as BD-4,5 and 6 of 1803 have varying degrees of weakness for this right foot. BD-4 has it very weak. Once this foot broke from this punch all dies created afterwards lack this detail.

More than likely, after lapping, the half dollar reverse in question had this feature added to the F in the die by hand. This retouching of working dies is seen in other instances (the double eagle reverse found on 1856-s and 1857-s with the patched A's immediately come to mind).



# 1805 Half Dollar Emission Sequence - Update

Brad Higgins

Last time, the die linkage chart was used to demonstrate a possible emission sequence for 1805 Draped Bust half dollars based solely on obverse and reverse die states, tracking the progression of die failure observed on multi-use dies. This didn't reveal the actual sequence, but is a starting point for introducing the third side of the coins as the final tool for establishing a definitive emission sequence. The edge lettering of early halves was imparted by dies whose wear could be tracked, just as we follow die wear of the obverse and reverse dies. Together, the three sides reveal the total picture. The first issue was where to start.

The emission sequence for Draped Bust halves of 1801, 1802, and 1803 is fairly straightforward and follows Overton's sequence as listed in the 3rd edition. 1801 O.101 was the first Draped Bust, Heraldic Eagle half dollar struck, followed by 1801 O.102, 1802 O.101, and 1803 O.101-104. With this in mind, the first edge studied was of an 1803 O.104. This coin was the last 1803 struck and shares a reverse die with 1805 O.112. Since no coins were struck dated 1804, the logical piece to first compare was with 1805/4 O.101. The edges didn't match, and since 1805 O.102 shares an obverse with 101, and is known to come with cracks not found on 101, it follows that O.102 couldn't be next.

The next choice involved some insight shared by fellow Draped Bust half enthusiast Bill Nyberg. His study of hub designs shows that 1805 Obverse 1 and Obverse 7 were both made with the first Draped Bust hub, and share such characteristics as nearly equal length ribbons and lower top curl. Obverse 7 was used to coin O.110-113, but die state comparison showed these to be struck in inverse progression, so the edges of 1803 O.104 and 1805 O.113 were compared and matched. The match was so obvious, it was a relief to have a good starting point. Next, this late state O.113 was compared to a mid-late state O.112. This O.112 had been edged with two brand new dies, however, I feel comfortable in placing O.112 at #2 because the late O.113 has very worn edge dies and were likely replaced early during coinage of O.112. Earlier die state examples of O.112 must be studied to confirm this. While some may object to this leap of faith, I have no doubt that said leap will be proven correct. Next in line are O.111 and O.110. A late state O.111 and early and late O.110s show similar states of the edge dies; however, a crack at star 13 and crumbling rim at K1-K3 on a late O.110 conclusively demonstrate that O.111 was coined before O.110. The emission sequence thus begins: O.113, O.112, O.111, O.110.

Next, the O.110 edge was compared to O.101. Recall that this die marriage includes the other obverse die made from the first hub. While I would have guessed that O.101 and O.102 were the next die marriages struck in 1805, an early state O.101 was lacking a second chip in O of DOLLAR, which indicates that O.101 was struck before O.110. Next, edge dies weren't conclusive as to whether O.110 or O.102 comes next, so a comparison of the shared reverse die puts O.102 before O.110, as an EDS O.102 lacks a die crack at the right wingtip, and O.110 displays a very light crack. The emission sequence is now: O.113, O.112, O.111, O.101, O.102, O.110.

The remaining die marriages are in three die linked groups made from the second hub design: O.104, O.103, O.105, O.106; O.108 and O.109; and O.107 and O.114. A borrowed O.107 helped to set the sequence of the remaining die marriages, except for O.114. Only two are known; one is in the Overton Reference Collection and not available for research, and the other belongs to an elderly gentleman in failing health and is also unavailable. Even though O.114 cannot be reliably placed in the emission sequence, this has no effect on determining the rest of the sequence. With only two discovered in almost twenty years, it is a certainty that the original mintage was only a few hundred, and this would have virtually no effect on edge die state which allows us to discern the sequence of the remaining die marriages with some certainty.

A curious feature caused me to stumble a bit on the next group of halves. None could be completely matched to O.110, which is where we left off. The first half of the edge, FiFTY CENTS OR lined up okay, but the second part, HALF A DOLLAR, didn't. This second part was much sharper and lacked several chips that partially filled some of the letters. For some unknown reason, only one die was changed on the Castaing machine! I believe this is unprecedented in the early half dollar series. Once this mental barrier was overcome, it was rather easy to track the emission sequence for the remaining die marriages: O.107, O.108, O.104, O.103, O.105, O.106, O.109. Furthermore, O.109 matched up with the beginning die marriage of 1806, tying things up nicely.

Still, a number of questions come to mind. Why was the obverse of O.103, an overdated 1805/4, left until so late in sequence? Was the die misplaced and found later in the year? Why was a die from the second hub overdated in the first place? When was the second hub created? In conclusion, the 1805 sequence was rather easy to determine, and was far simpler than for most years of the Capped Bust series. Only three edges or partial edges are involved whereas some individual Capped Bust die marriages can be found with three edges. Having two distinct hub designs separating two die linked groups of die marriages also helped. Can this be considered conclusive? Not yet. EDS O.112's need to be examined. Also, more O.107's need to be studied to connect O.110 with the next group. More people need to look at these coins, and the sample size should be increased, although slabs make this more difficult for the rarer die marriages. While 1805 cannot be considered anything other than a common date, most of the die marriages are very difficult to find, which also limits the sample size. Still, I am confident that this sequence will hold up.



## 1805 flow chart

Overton's obv. Die #	Actual die #	Die Marriage	Actual rev.	Overton's rev. die	Notes
Obv. 7	Obv. 1	O.113	Rev. A	Rev. I	Rev. die develops cud
Obv. 7	Obv. 1	O.112	Rev. B	Rev. H	Rev. die develops cud
Obv. 7	Obv. 1	O.111	Rev. C	Rev. G	Rev. die cracks up
Obv. 1	Obv. 2	O.108	Rev. D	Rev. A	Rev. die develops cud
Obv. 1	Obv. 2	O.102	Rev. E	Rev. B	Obv. die cracks up
Obv. 7	Obv. 1	O.110	Rev. E	Rev. B	Obv. rim crumbles @ K12-3
Obv. 5	Obv. 3	O.107	Rev. F	Rev. E	No apparent die failure
Obv. 6	Obv. 4	O.108	Rev. E	Rev. B	No apparent die failure
Obv. 3	Obv. 5	O.104	Rev. G	Rev. C	Obv. die develops cud
Obv. 2	Obv. 6	O.103	Rev. G	Rev. C	Obv. die develops cud
Obv. 4	Obv. 7	O.105	Rev. G	Rev. C	Rev. die develops cud
Obv. 4	Obv. 7	O.106	Rev. H	Rev. D	No apparent die failure
Obv. 6	Obv. 4	O.109	Rev. I	Rev. F	Rev. die develops cud



## 2006 Volume 17 Jules Reiver Literary Award

The Jules Reiver Literary Award is presented annually to the author of the favorite submission to the John Reich Journal by a vote of the members. We would like to thank all of the members who provided articles for publication in last years' journal. Almost all of the submissions received votes from the membership showing a broad interest in the submissions. The voting for articles from Volume 17 was very close with only 3 votes separating the winner from two challengers who tied for second place. Tying for second with 38 votes were Rory Rea with his article *Retained and Full Cuds on Bust Quarters* and Bradley Karoleff with *E and L Counterstamps; The Questions Continue*. We would like to congratulate the winner, Steve Tompkins for his submission *Counterstamps; A Numismatic Window to Our Historical Past* which garnered 41 votes. Hopefully the authors for volume 18 will live up to the high standards set by this years' articles.

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# **THE INAUGURAL SILVER HAPPENINGS...EAC 2007**

**Nathan Markowitz**

There has been a small beginning in early american silver coinage...displayed in St Louis. Perhaps the honourable Mr Washington might have stated the above were he a numismatist attending the EAC Convention in St Louis this spring. This brief essay will summarize the first silver happenings which took place at the airport Hilton on April 26, 2007.

The Happenings event is a Thursday night tradition at the annual Early American Coppers convention. Traditionally there are three rooms; one houses colonials, one large cents, and one half cents. Collectors bring specimens for display and check them in at a central table whereupon they are brought to a table which displays coins of a single die variety...under constant supervision. The die varieties are chosen well in advance and often some of the finest known coins are displayed for mutual enjoyment and study. Once you attend one of these sessions, you'll wonder how you got along without them!

We were invited to join the large cent room this year. I decided to choose the 1825 Browning 3 quarter for display as they are relatively common and demonstrate a wonderful die progression with die cracks through United on the reverse terminating in a cud. As a quarter collector, I also hoped a number of specimens would appear. We had fourteen coins representing nearly the entire spectrum of die states. This exceeded my expectations and was well received by some very surprised copper collectors! Interestingly, many of the copper collectors who visited our table seemed to have a silver mistress on the side; although not universally in the quarter mold. Four quarter specialists brought their specimens and two collectors from other areas added more coins. I sure answered a lot of questions about early silver and all of our sample JR journals were eagerly devoured. Grades varied from AG to AU with three cuds amongst the coins. Visitors to the table were asked to choose their five favorite specimens.

I have tabulated the results in the tradition of the large cent room host. A first place vote counts for five points, second place for four, and so on. The top coin was an AU retained cud specimen followed by an AU perfect state and then a nice XF perfect state coin. While higher grade specimens "won" this display, that is hardly always the case in EAC Happenings. Often a neat die state, even in low grade, will win. Several viewers specifically chose coins that they could handle...slabs are not too popular at copper tables in general.



As a monitor at the table I had one curious observation. I tried to keep the coins reverse up to easily show the die progression. As each collector examined the specimens they almost universally put them obverse side up. I guess there is something in the collector of any coin that just thinks the obverse should be displayed right side up. As one who enjoys cuds, I often find the reverses far more interesting.

Everyone seemed to enjoy the distraction from copper and with our readers participation next year in Dallas we hope to extend the Happenings display. It is this writers opinion that the decision for displays in Dallas should be discussed well in advance by membership and leadership. We hope to have a room dedicated to silver happenings on Thursday and perhaps one variety from each denomination would be a great next step. I personally like the copper folks approach of designating one collector for each series to poll fellow collectors for a variety to display. The only caveat in my view is the variety chosen needs to be well represented at the meeting. In other words, pick a variety that many collectors will either bring along or that they will entrust to other collectors/dealers to bring to the show for them. I await Chapter Two next year.



**1825 B-3 Capped Bust quarter reverse die state progressions from early die state through intermediate cracks and retained cuds to terminal.**  
Illustrations Courtesy of Rory Rea.



# **Master Die and Hub Changes for 1801-1807 Half Dollars, And Integration with 1799-1804 Gold Eagle Reverses**

**Bill Nyberg**

Much of the research on Draped Bust Half Dollars has focused on die marriages, while master die and hub design changes have not been documented or identified. For the early US Mint, the use of master dies and hubs gave repeatability of design for the many working dies, reduced total engraving effort, and allowed much higher mintages than could have been obtained with laborious direct full engraving of working dies.

This study has been interesting, as my career in a tooling organization of an aerospace company has involved the use of master models and gages to define engineering surfaces, enabling the fabrication of form dies and assembly jig tools for fuselage panels. This expensive master tooling has now been mostly replaced with dimensional modeling software, and the newer carbon fiber aircraft panels are fabricated from layup mandrels, another form of design transfer tooling.

The new book “Early U.S. Gold Coin Varieties” by John W. Dannreuther and Harry W. Bass is outstanding! The excellent photography sets the stage to decipher the obscure connection between \$10 Eagle and Half Dollar Heraldic Reverses.

## **Half Dollar Obverse Design Changes**

After collecting DBHD's for a few years I began to notice distinct obverse differences in the 1801-1803 years, compared to the later years. The Draped Bust, Heraldic Eagle Half Dollar Obverse Design Type #1 was used from 1801 through 1803, and on 1805 Obverse 1 (O.101, 102) and Obverse 7 (O.110, 111, 112, 113). The Obverse Sub-Design Type #2 was used on the remaining 1805-1807 Draped Bust Half Dollars. The first appearance of Sub-Design Type #2 was on 1805/4 O.103.

The primary changes for Obverse Sub-Design Type #2 are:

- Top hair curl is higher
- Middle ribbon end is lengthened
- Drapery lines have changed, deeper folds
- Angle from neck to chin is greater
- Facial features have changed, expression is different
- Hair detail is not as well defined
- Relief is slightly lower

I measured the relief on 8 examples (4 of each design type, similar wear) for the high point of shoulder, cheek, and head. The shoulder had no change in relief, while the cheek and head on Design Type #1 measured slightly higher by .01 - .02 mm. This is visually apparent, as Design Type #1 has the appearance of fuller cheeks and deeper hair detail.

The higher relief, along with the deeper hair detail, is the primary reason that 1801-1803 halves are often described as having “better strikes”, even though striking pressure is not the reason for their better appearance. Obverse Design Type #1 also wears well, with coins worn to VG grades still showing good hair detail.





**Draped Bust, Heraldic Eagle Half Dollar  
Obverse Design Type #1**



**Draped Bust, Heraldic Eagle Half Dollar  
Obverse Sub-Design Type #2**

Since material was added to the top hair curl and ribbon along with other changes observed from overlays, I believe that a new master die and working hub were fabricated for this change. It is fascinating that this change was apparently made in 1804, a year when no half dollars were struck! Since there was limited working die and coin production from the metal shortage of 1804, Scot had more time to experiment with master die and hub changes.

### **Reverse Changes and Inter-Denominational Hub Sharing**

In 2003, I purchased an 1803 O.101 and noticed the tail feathers were more rounded on the ends. I also observed that this style of tail feathers are found on some early gold Eagles, and was intrigued with the possibility of die links. For 1803, Reverses A and C (1803 Reverse C also used for 1805 O.112, Reverse H) had this type of round end tail feathers. This is the only usage of the round end tail feather style for Heraldic Eagle Reverse Half Dollars, all others had tail feathers that were more blunt and square on the end. Minor E PLURIBUS UNUM lettering placement differences are noted, and the clouds have differences compared the square end tail feathers, along with other differences seen from overlays. I believe this was also a master die and working hub change.



**Round End Tail Feathers, Half Dollar Reverse  
Sub-Design #2**



**Square End Tail Feathers, Half Dollar Reverse  
Sub-Design #3**

There was a reverse working hub change starting with 1805/4 O.101 Reverse A, and used for all subsequent 1805, 1806, and 1807 reverses with the exception of 1805 O.112. The lettering shows different placement compared to earlier square end tail feather reverses, with M closer to wing, S less tilted, and U more right of shield center point. As E PLURIBUS UNUM is placed on the working hub (sometimes called “device punch”) and not the master die, this was only a working hub replacement. All other master die details show a match with overlays. This design type changed to large reverse stars for all examples, which were punched into the working dies.

The designation for these three Half Dollar reverse design types is consistent with the nomenclature precedent set forth by Edgar Souders in his book “Bust Half Fever, Second Edition”:

Heraldic Eagle Reverse Design Type #1, square end tail feathers, small stars

Reverse Sub-Design Type #2, round end tail feathers

Reverse Sub-Design Type #3, square end tail feathers, large stars

Close inspection of raw \$10 Eagles and Half Dollars along with overlays indicate the two master dies for the 1801-1807 Half Dollar reverses were engraved in 1799 by Robert Scot for initial usage with Draped Bust \$10 Eagles. These master dies were sunk from a Heraldic Eagle master design hub that was fabricated in mid-1797 (see summary). For more efficient use of engraving resources, I believe the intent of the production plan was for dual usage Eagle/Half Dollar reverse master dies, working hubs, and possibly working dies, as was done with Draped Bust Dimes and Quarter Eagles. The letter and number punches were the same for both denominations. Average diameters are the same for 1799-1804 Eagles and 1801-1807 Halves, and dentil counts are within the same range. There are no examples of Eagle working dies used in 1799-1804 that were shared with Half Dollars.

In order to determine the reverse master dies and hubs that were shared with Early Halves and Eagles, I have identified two master dies and three working hubs used with 1799-1804 \$10 Eagle Reverses. The subtle and seemingly picayune differences of the master die and hub changes are the key to decoding the link between the two series. I own 36 of the 38 Half Dollar reverse dies known to be used in 1801-1807, and prepared scaled transparencies of these reverses for overlays of the Eagle photographs in the Bass/Dannreuther book. Overlays are a powerful attribution tool used to detect small differences that cannot be seen in raw coin to coin comparisons (see the 1807 O.115 discovery article JRJ 7/04).

Overlays show a match in the hubbed devices between Reverse Design Type #1 and 1799 BD-8, which is the first Eagle usage of this reverse hub with square end tail feathers. I believe the same working hub for both Eagles and Half Dollars was used to impress the eagle, clouds, and shield outline on working dies of this design type. Both Eagles and Half Dollars used small stars punched into the working die for these reverses.





**Draped Bust, Heraldic Eagle Half Dollar  
Reverse Design Type #1  
square end tail feathers, small stars**



**Half Dollar Reverse Sub- Design Type #2  
round end tail feathers**

For Reverse Sub-Design Type #2 with round end tail feathers, overlays show differences between Eagles and Half Dollars in motto lettering placement. The same master die was used to create both Eagles and Half Dollar round end tail feather reverses, with different working hubs used for each denomination, as motto lettering is placed on the working hub. The first usage of this design type was on 1799 BD-1 Eagles.



**Half Dollar Reverse Sub- Design Type #3  
square end tail feathers, hubbed dentils**

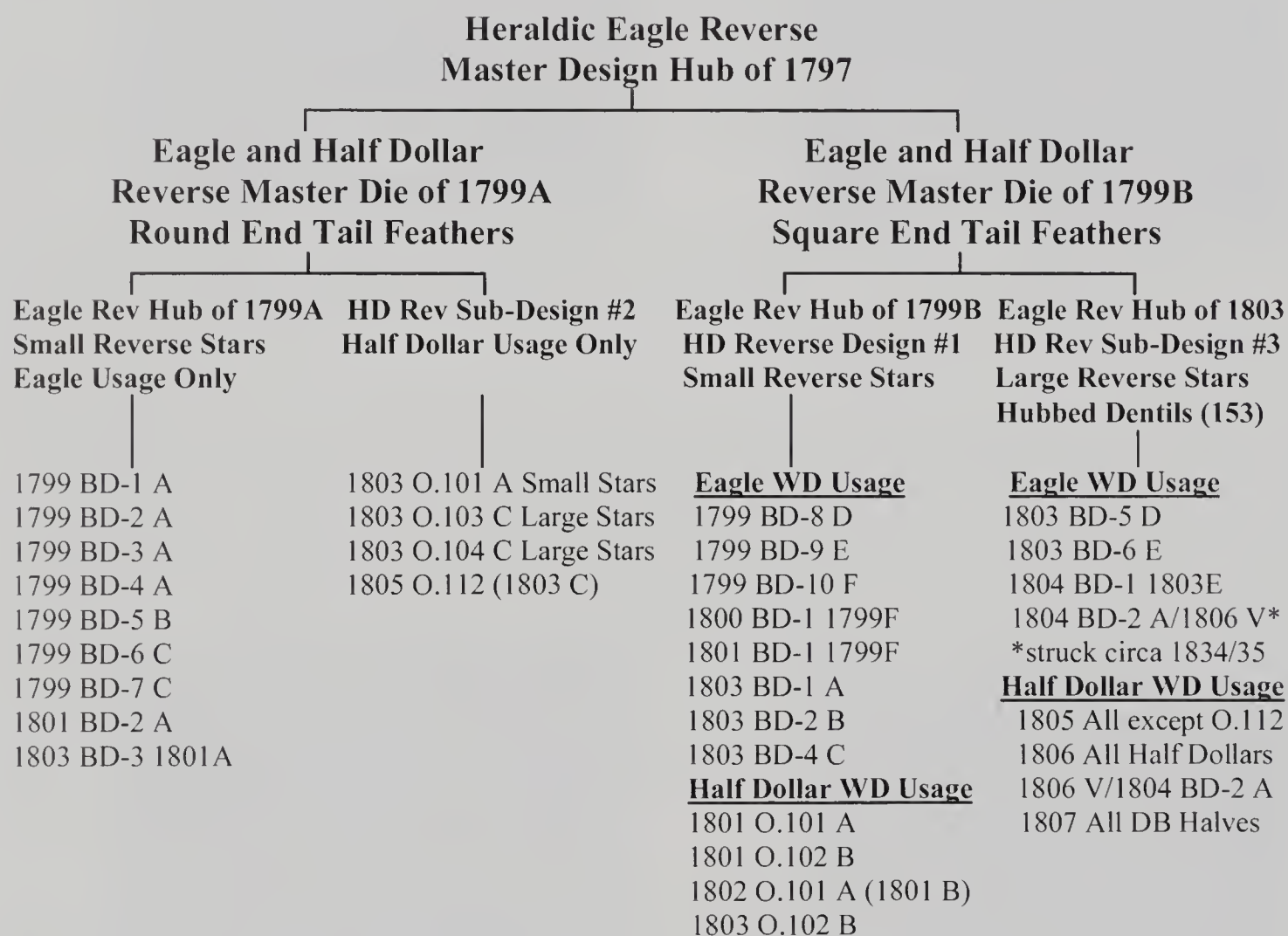


**Eagle Reverse Hub of 1799B, small stars**

For Reverse Sub-Design Type #3, overlays show a match between Eagles and Half Dollars, which indicates the same working hub was shared on this design type. The first usage of this design type for Eagles is 1803 BD-5. This reverse type was also used on 1804 BD-2 (R.8, three known) which is the die marriage used for the King of Siam proof set, these were struck circa 1834-1835. There are also 4-5 silver die trials known for the 1804 BD-2 die marriage (J34/P46, reeded edge), and a unique plain edge in silver (J34A/P47). As in Half Dollars, this design type for Eagles changed to large reverse stars.

The Eagle nomenclature is consistent with the style used in John Dannreuther's new book. The master die and hub designations are listed in the Integration Matrix:

### **Integration Matrix for Master Die and Hub Usage on 1801-1807 Half Dollar and 1799-1804 \$10 Eagle Reverses**



The row categories of the Integration Matrix display the master design hub, master dies, working hubs, and working dies (WD) for \$10 Eagles and Half Dollars (HD). The columns for the working die portion of the Integration Matrix display the year, variety, and reverse designation. The working die sequence is a major listing by year, with gold listed first, for each working hub, and is not intended to be an emission order.

There are some examples of small variation within the Integration Matrix categories which can include minor touch up to the working hub or working die. The 1799 Rev C Eagle shows slightly different upper shield/breast feathers/breast outline, and there are small differences in other halves in the same area. Breast feathers show some variance among working dies, they appear to be engraved, or at least strengthened, on the working dies.



### The Bryce Brown Dentil Study Discoveries

Early Half Dollar researcher Bryce Brown has recently published a very interesting study of die dentil counts for Flowing Hair and Draped Bust Half Dollars. Bryce referenced an earlier version of this article in his analysis. Starting with 1805 halves, Bryce observed:

“In 1805 (neglecting the “leftover” 1805 reverse H (1803 reverse C)), there began an unprecedented string of (33) reverse dies with identical dentil counts that ran through the end of draped bust production in 1807. This consistent dentil pattern coincides EXACTLY with the introduction of Reverse Sub-Design #3, as described by Bill Nyberg in his article. Looking further, Bill identifies three Eagle reverses as being Sub-Design #3 (1803 D, E; and 1804 A). Do these three reverses also have 153 dentils? You bet they do!”

Bryce introduced theoretical possibilities with these questions, “Were dentils (or helpful locating marks) placed on the reverse master die or working hub starting in 1805? Was a “gang” or “ring” punch used to punch dentils into individual working dies?”

The constant dentil count of 153 is significant. One method that could be used to gain this consistency on working dies is with a locating tool. A round locating template with 153 serrations could be used to mark-off dentil placements or locate punches. However, this tool would show variance in rotation with each working die. A gang punch would also show variation in dentil placement. A ring punch would have variation in centering and rotation, in addition to metallurgical issues that would not make a ring punch feasible.

Further analysis and overlays of each working die of Half Dollar Sub-Design #3 shows an identical tail feather to dentil distance and angular position, and the same with wing tip to dentil alignment. The earlier 1801-1803 halves and 1799 to 1803 BD-4 Eagles show variation in all of these measurements. It would be difficult to design a tool which locates to an index on the working die that would completely eliminate rotation variation of dentils. Also, individual dentil lengths are consistent among many working dies of Sub-Design #3, such as an increase in length of the dentils located 2 to 4 mm counter-clockwise from the center of the tail feathers.

The controlled rotation, identical position angularity, and similar dentil lengths are evidence that dentils were hubbed on the working dies of Half Dollar Reverse Sub-Design Type #3 and Eagle Reverse Hub of 1803, as Bryce Brown had theorized. It would be impossible to obtain this close tolerance precision with freehand engraving or the assistance of a locating tool. The dentils were engraved on the master die and transferred with the central eagle via the screw press to the working hub. Overlays show identical dentilation among working dies, when the overlays are rotated they no longer match, giving further evidence of hubbed dentils.

Although full hubbing of working dies was not done until the late 1830's for all US Mint series, Craig Sholley has explained to me that 1800 Large Cent reverses had experimental full hubbing, which ultimately failed because of the large amount of re-punching, re-cutting, and touchup needed on the devices, along with other issues. The 1803 to 1807 partial hubbing of only the central eagle and dentilation was another experiment to reduce engraving time for Half Dollars and Eagles, which also had problems as explained later in this article. The hubbed dentil experiment also explains why Half Dollar Sub-Design #2 was discontinued after use with only two working dies.

It should be noted that the reverse dentil shape changed slightly in late 1806 and throughout 1807, from a rounded end to a more tapered end, with the same identical dentil location. The dentils are slightly wider, indicating the master die dentils were re-engraved, and transferred to the working hub after annealing of the hub. This appears to be the same hub because of identical motto lettering placement and overlay matching.

For the obverse dentils, Bryce explained, "Obverse Design Type "1 (used from 1801 through 1805 obverses 1 and 7) was replaced by Obverse Sub-Design #2. At least the first six obverse dies of Sub-Design #2 (1805 obverses 2, 3, 4, 5, 6 and 1806/5 obverse 1) share the dentil count of 153. Following that point, only 8 of the 19 subsequent obverse dies (all dated 1806 or 1807) share a dentil count of 153 (pending a proper count of obverse 13). Perhaps more study can suggest why the trend (and it certainly looks like a trend) was broken with the obverse dies."

The obverse dentils are very uniform, and this uniformity changes when the dentil count deviates from 153, indicating that some type of controlled tooling or hubbing was used to create the dentils on 1805 Obverses 2, 3, 4, 5, 6 and 1806/5 Obverse 1. Some 1806 dies, such as Obverses 3 and 7, show the uniqueness of dentils that could have been engraved on the working die, or controlled with loose tolerance tooling. The 1806 Obverse 5, which coincidentally also has 153 dentils, probably had dentils that were engraved on the working die, from evidence of graver slips on a number of upper obverse dentils for early die state O.125, before the die was lapped.

### **Purpose of the Master Die Changes and Hubbed Dentils**

Robert Scot was the lone full-time engraver for the US Mint in 1803, and used the hubbed dentilation process to save engraving time, as hand engraving or punching 150+ dentils on each working die would require many long hours. With the discontinuation of Dollars and \$10 Eagles in 1803-1804, the focus shifted to Half Dollars. Scot was successful at engraving sufficient dies to enable a record mintage of 863,576 Half Dollars in 1806. It should be noted that Coiner Adam Eckfeldt was probably involved with the design and execution of the hubbed dentil experiment, along with Robert Scot.



Mint Director Robert Patterson, a mathematician, gave a positive report to President Jefferson, dated January 1, 1807. An excerpt from the Mint Report showed Patterson's inclination of using mathematical applications for productivity metrics:

“By comparing this years coinage of the precious metals with that of the preceding ten years, the time that the Mint had been in full operation, it will appear that, though the expense has been comparatively moderate, yet the amount struck is nearly double the average amount during that period, and the number of pieces (the most accurate measure of the quantity of labor) considerably more than quadruple.”

The Half Dollar obverse master die change in 1805 with the lower relief was probably an attempt to obtain better metal flow and die longevity. As it turned out, neither was achieved, as most 1805 and 1806 working dies were retired after suffering massive die breaks, many with full edge cuds (6 of 8 reverses from 1805 had full edge cuds), and the strikes on most 1805-1807 halves are notoriously weak. The 1806 Half Dollars had the most uneven obverse/reverse ratio (13/21) in the 1805-1836 period, as the 1806 reverses failed quickly. This die failure may have led to the discontinuation of the new hubbed dentilation process, which could have initiated stress cracks on the edge of the working die. The hiring of John Reich in 1807 was also a factor. Edgar Souders suggested a possible use of the large screw press, after dollars were discontinued, may have contributed to the 1805-1806 die failure. While Scot was successful at enabling increased mintages with higher die output, he failed to obtain better strikes and longer die life in 1805-1807.

With the inter-denominational hub sharing, it is a mystery why no Half Dollar reverse working dies were shared with \$10 Eagles struck in 1799-1804, as in the case of the six Dime/Quarter Eagle reverse working dies that were dual usage. One reason could be set-up differences between lettered edge silver planchets struck with an open collar, and gold planchets that had edge reeding most likely applied with a segmented closed collar. It is also conceivable that working dies were simply worn or shattered to the extent of being unusable for the other denomination. Another possible reason, in a broader context of Robert Hilt's "Group Strength" theory, sets of dies specifically intended for each denomination were prepared prior to striking to accommodate denomination production schedules.

### **Identification of 1806 Reverse V for the King of Siam Eagle**

The 1804 BD-2 Proof Eagles were struck by the US Mint circa 1834/1835 for diplomatic presentation purposes. As stated earlier, overlays match the Eagle Reverse Hub of 1803/Half Dollar Reverse Sub-Design #3, which is the working hub used to create the reverse of 1804 BD-2, including the King of Siam Eagle. Within the Sub-Design #3 working hub usage, the 1804 BD-2 Reverse A working die was fabricated before the change of the dentil style in late 1806. A process of elimination will further narrow down the window of when this reverse working die was fabricated.

The 1804 BD-2 Reverse A has an F with a broken right base serif, and an A with a broken inside lower right serif, as stated in John Dannreuther's 8/14/2006 Coin World article. This A punch was used in late 1803 on Eagle BD-6, and Half Dollars from 1805-1807.

The damaged F punch did not appear with certainty until 1806 (see Brad Higgins' referenced article), although it may have been damaged on 1805 Reverse F (O.109), the final die marriage struck in 1805. M.L. Beistle mentions for 1806 B-13U (O.107 Reverse E) "a perfect F in OF, the only one of this date found with a full base on F." The later discovered 1806 O.108 Reverse F also shows a perfect F (E and F could be unused leftover 1805 Reverses), along with the used and leftover from the previous year 1806/5 O.104 Rev D. The 1806 Reverse B may have a full F, but all other 1806 reverses show the damaged F with the serif broken at an angle, indicated on high grade examples with strong strikes in that area.

In 1807, the damaged F punch was replaced on all known working die reverses except 1807 Reverse F, which was previously used on 1806 Reverse M for O.117 and O.121.

In addition to the damaged F that appears in 1806, the high breast feather count (13 in row 2 from top) of 1804 BD-2 Reverse A is more similar to 1806 than the slightly larger and lower count breast feathers found in 1805 (11 in row 2 on Reverses D and F). Also, Eagles 1803 BD-5, BD-6, and 1804 BD-1 (Hub of 1803) show the stylistically larger and fewer breast feathers, compared to 1804 BD-2.

The 1804 BD-2 Reverse B was heavily lapped, then polished to a proof surface. There is separation from Clouds 7-8, and some berries are very small, as a result of the lapping. The reverse stars are also reduced in size from the lapping. This could have been to remove rust from long storage and/or to remove the effects of a possible brief usage, where no survivors have been found. Cloud 7 displays the somewhat ragged lower right corner that 1806 O.119 Reverse O shows of this hub die stage, along with other mid-1806 reverses. There is what appears to be a small die chip between Cloud 6 and 7; this is actually a lapping remnant of a raised area on Cloud 7 that can be seen on the hub die stage of 1806 O.119 Reverse O.

All of this evidence indicates that 1804 BD-2 Reverse A could not have been engraved in 1799-1805, 1807, or any subsequent year. I believe the reverse die used to strike 1804 BD-2 was an unused or briefly used mid-1806 Half Dollar die, 1806 Reverse V.





1805 O.107 identical dentil to tail feather alignment on Reverse Sub-Design #3



1806 O.111



1806 O.101



1806 O.111b



1806 O.102



1807 O.107 tapered end dentils



1807 O.106 tapered end dentils



1807 O.104 tapered end dentils

### Summary

The scope of this article is for the master dies and hubs created for 1801-1807 Draped Bust, Heraldic Eagle Half Dollar series, as well as 1799-1804 Draped Bust \$10 Eagle reverses. The obverse master die and hub appear to be slightly different for the 1796-1797 Draped Bust, Small Eagle Half Dollar series, but I have not studied this series in-depth. With more research, additional hub die changes could possibly be found in other denominations.

The die sinking process is described in Edgar Souders' referenced book, and Craig Sholley's referenced article on die sinking. A brief description of this process is: the master design hub is engraved in relief, and then impressed into the master die blank via the screw press to form the negative image and incuse master die. Next is the transfer to the positive image (with relief) working hub with the screw press, where the motto lettering is punched. The working hub (device punch) is then impressed into the working



die blank with the screw press, creating the central device on the negative image and incuse working die. Finally, punching of the legends, stars, date, etc. is done to finish the working die.

There are varying opinions among experts as to whether bust period engraving begins with the incuse master die, or that engraving begins in relief with a master hub, and then transferred to the master die. From email correspondence regarding this article, John Dannreuther described another compelling theory of master die fabrication, where some features are duplicated, and others are different, possibly constructed from component punches, "As far as what is duplicated from master die to master die, I feel the arrows, leaves, wings, shield outline, ribbon (without motto), and possibly the clouds were punches. It appears that tail feathers, neck, and head were different for each master die. I think the finishing of each master die (as well as each working die) makes for some differences in the detail, but the basic punches are repeated."

Applying John Dannreuther's theory, the final pieces of the puzzle fall into place. I believe Chief Engraver Robert Scot created the Heraldic Eagle master design hub in mid-1797, consisting of wings, shield outline, leaves, arrows, clouds, and ribbon (without motto). John Smith Gardner fabricated the three \$10 Eagle reverse working dies used in 1797 and 1798. In 1799, Robert Scot prepared for the increased mintage by sinking the two master dies with the master design hub. This also served to protect and preserve the popular Heraldic Eagle design for the duration of the type. The two tail feather and eagle head styles may have been engraved into the master dies, or they conceivably could have been component punches, more research is needed. From these two reverse master dies, four working hubs and fifty one working dies were created.

Robert Scot's innovative engraving plan was his 1799 version of a lean systems approach to integrate silver and gold reverse die tooling. This simplified production strategy maximized the limited engraving resources and enabled higher mintages. Scot's Draped Bust design is a magnificent and most elegant portrayal of Miss Liberty, highly valued by collectors.

I would like to thank Bryce Brown for encouraging and motivating me to write an earlier version of this article for the November, 2006 BHNC Newsletter, and for the use of his outstanding die dentil research. I would also like to thank John Dannreuther, Craig Sholley, and Edgar Souders for their sage advice, which greatly enhanced this article. © 2007 Bill Nyberg

### References:

M. L. Beistle, A Register of Half Dollar Die Varieties and Sub-Varieties, 1929

Bryce Brown, Flowing Hair and Draped Bust Half Dollar Die Dentil Counts, 1794-1807, BHNC Newsletter, November, 2006

John W. Dannreuther and Harry W. Bass Jr., Early U.S. Gold Coin Varieties, 2006

David J. Davis, Russell J. Logan, Allen F. Lovejoy, John W. McCloskey, William L. Subjack, Early United States Dimes 1796-1837, 1984

Ron Guth, CoinFacts, [www.coinfacts.com](http://www.coinfacts.com), an excellent image of 1804 BD-2, on the PCGS website

Brad Higgins, Mystery of the Missing Serif, John Reich Journal, December 2006

Robert P. Hilt II, Die Varieties of Early United States Coins, 1980

Andy Lustig, Saul Teichman, [www.uspatterns.com](http://www.uspatterns.com), information and images of J34/P46 and J34A/P47

Bill Nyberg, Master Die and Hub Changes for Draped Bust, Heraldic Eagle Half Dollars, And 1799-1804 Eagle Reverses, BHNC Newsletter, November, 2006

Al C. Overton, Early Half Dollar Die Varieties 1794-1836, Third Edition, 1990

Robert Patterson to President Jefferson, Mint Report 1807 III 2.261, courtesy of Paul Hybert and the Chicago Coin Club's online archives, [www.chicagocoinclub.org](http://www.chicagocoinclub.org), also found on the John Reich Collectors Society website, [www.jrcs.org/](http://www.jrcs.org/)

Craig Sholley, Early US Minting Methods, Part I: Die Forging and Hardening, John Reich Journal, April, 2003

Craig Sholley, Early US Minting Methods, Part II: Die Sinking, John Reich Journal, July, 2003

Edgar E. Souders, Bust Half Fever 1807-1836, Second Edition, 2006

Anthony J. Taraszka, Eagle Diameters and Edge Reed Counts of Early Eagles, John Reich Journal, July, 1999

Anthony J. Taraszka, United States Ten Dollar Gold Eagles 1795-1804, 1999

Email correspondence with Bryce Brown, John Dannreuther, Brad Higgins, Craig Sholley, and Edgar Souders. Discussion with die engraver Greg Franck-Weiby at the 2007 Pacific Northwest Numismatic Convention.

All half dollar photographs are from the author's collection. The photograph of the 1799 BD-8 Eagle is courtesy of West Seattle Coins.





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